



# The Perfect Lighting Choice.™

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## IES INDOOR REPORT PHOTOMETRIC FILENAME : FSN SEED 4 LIGHT.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] 18097-C  
[TESTLAB] LightLab International ([www.LightLabInternational.com](http://www.LightLabInternational.com))  
[MANUFAC] Justice Design Group, Los Angeles, CA 90071  
[LUMCAT] Artisan Glass (FSN) - Seeded Glass (SEED) 4-Light Bath Bar  
[LUMINAIRE] Justice Design Group - Wall mount bathroom luminaire. Product ID: FSN SEED 4-Light  
[MORE] Steel formed housing and four frosted clear glass lenses with white interior.  
[MORE] 40 LEDs mounted in four circular arrays with white plastic dome lenses.  
[MORE] No driver.  
[MORE] Operating at 120 VAC and 60 Hz.  
[MORE] Simulated data from test of one and six lamp fixtures.  
[ISSUE DATE] April 18, 2018

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2395
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	80
Total Luminaire Watts	29.99
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.56
Spacing Criterion (90-270)	1.74
Spacing Criterion (Diagonal)	1.54
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.08 m
Luminous Width (90-270)	0.66 m
Luminous Height	0.14 m

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3204	3648	8046
55	2702	2886	5815
65	2417	2508	4959
75	2243	2277	5187
85	2160	2166	6252

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**CANDELA TABULATION**

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>
<b>0.0</b>	375.324	375.324	375.324	375.324	375.324	375.324	375.324	375.324	375.324
<b>0.5</b>	371.690	372.771	374.199	374.372	375.583	377.097	378.265	378.352	378.395
<b>1.0</b>	372.642	373.896	374.502	374.761	376.059	378.482	380.342	381.077	381.640
<b>1.5</b>	375.627	376.362	376.362	375.713	377.314	380.472	383.197	384.927	385.620
<b>2.0</b>	378.958	379.260	379.044	377.184	378.785	382.635	386.528	389.210	390.075
<b>2.5</b>	383.024	383.284	382.159	379.390	380.645	385.230	390.292	393.926	394.921
<b>3.0</b>	387.869	387.047	385.620	381.986	382.548	387.912	394.531	398.598	399.939
<b>3.5</b>	392.758	391.590	389.470	384.625	384.754	390.681	398.468	403.486	405.606
<b>4.0</b>	397.819	396.608	393.060	387.566	386.961	393.926	402.837	408.461	410.537
<b>4.5</b>	402.924	401.150	397.213	390.335	389.340	397.170	407.077	413.652	416.075
<b>5.0</b>	407.726	406.341	401.237	393.320	391.590	400.371	411.057	418.411	421.309
<b>5.5</b>	412.571	410.884	405.260	396.651	394.055	403.573	415.426	423.688	426.500
<b>6.0</b>	418.151	415.902	409.369	399.852	396.521	407.033	420.011	428.923	432.557
<b>6.5</b>	423.169	420.747	413.782	402.967	398.814	410.321	424.294	433.984	437.359
<b>7.0</b>	428.188	425.419	417.935	406.298	401.453	413.652	428.880	439.262	442.896
<b>7.5</b>	433.162	430.653	422.174	409.586	404.048	417.113	433.465	444.410	448.260
<b>8.0</b>	437.878	435.455	426.544	412.744	406.644	420.530	437.791	449.428	453.408
<b>8.5</b>	442.723	440.430	430.740	416.075	409.023	423.991	442.334	454.446	458.556
<b>9.0</b>	448.174	445.059	435.023	419.406	411.792	427.409	447.006	459.291	463.704
<b>9.5</b>	453.278	449.861	439.392	422.650	414.604	430.913	451.029	464.007	468.852
<b>10.0</b>	458.167	454.879	443.545	426.025	417.026	434.157	455.355	469.241	473.913
<b>10.5</b>	463.012	460.157	447.914	429.529	419.622	437.661	459.854	474.043	479.018
<b>11.0</b>	468.549	464.699	452.110	432.860	422.218	441.122	464.007	478.845	484.079
<b>11.5</b>	473.740	469.544	456.220	436.493	424.856	444.583	468.376	483.474	488.795
<b>12.0</b>	478.542	474.519	460.589	439.824	427.495	448.044	472.616	488.449	493.683
<b>12.5</b>	482.479	478.975	465.132	443.069	430.048	451.634	476.768	492.775	498.485
<b>13.0</b>	485.247	483.344	469.155	446.443	432.514	454.965	480.965	497.533	502.768
<b>13.5</b>	486.978	486.805	473.611	449.731	435.196	458.470	485.031	501.903	506.358
<b>14.0</b>	487.540	489.011	477.590	452.759	437.791	461.714	489.011	505.882	508.738
<b>14.5</b>	488.881	490.828	481.787	456.177	440.084	465.045	492.948	509.127	510.035
<b>15.0</b>	489.876	491.996	485.723	459.464	442.939	468.333	497.101	511.463	510.598
<b>15.5</b>	490.871	492.904	489.487	462.796	445.535	471.448	500.864	512.371	510.425
<b>16.0</b>	491.217	494.072	492.688	466.083	447.741	474.779	504.628	512.934	510.165
<b>16.5</b>	491.650	494.202	495.587	469.155	450.120	477.980	508.478	512.847	509.560
<b>17.0</b>	491.693	494.505	498.096	472.269	452.932	480.965	511.896	512.415	508.651
<b>17.5</b>	492.256	495.154	500.086	475.514	455.182	483.950	514.837	511.939	508.305
<b>18.0</b>	491.953	495.067	501.340	478.499	457.561	487.151	517.476	511.117	507.137
<b>18.5</b>	492.256	495.024	502.422	481.527	460.070	490.049	519.120	510.338	505.969
<b>19.0</b>	492.169	495.241	502.898	484.555	462.493	493.121	520.028	509.473	504.844
<b>19.5</b>	491.520	494.592	503.244	487.627	464.915	495.933	520.375	508.521	503.546
<b>20.0</b>	490.698	494.419	503.373	490.352	467.208	499.004	520.202	507.224	502.508
<b>20.5</b>	490.006	494.029	503.330	493.380	469.760	501.773	519.726	506.099	500.994
<b>21.0</b>	488.405	492.948	503.157	496.106	472.096	504.671	519.034	504.801	499.567
<b>21.5</b>	487.540	491.866	502.811	498.961	474.519	507.526	518.125	503.200	498.139
<b>22.0</b>	486.675	491.044	502.249	501.556	476.942	510.122	517.173	501.730	496.279
<b>22.5</b>	485.247	489.617	501.686	504.022	479.407	512.891	516.222	499.913	494.072
<b>23.0</b>	483.863	487.930	501.081	506.185	481.700	515.313	514.881	498.009	492.256
<b>23.5</b>	481.873	485.940	499.869	507.699	483.733	517.865	513.366	496.192	489.790
<b>24.0</b>	479.970	483.863	498.788	508.997	486.156	520.245	511.896	493.726	487.281
<b>24.5</b>	478.326	482.176	497.533	510.122	488.276	522.581	510.252	491.001	485.031
<b>25.0</b>	476.336	479.883	495.803	511.030	490.439	524.614	508.392	488.708	482.479
<b>25.5</b>	474.130	477.720	494.159	511.723	492.602	526.171	506.618	485.940	479.580
<b>26.0</b>	471.707	475.254	492.126	511.896	494.462	527.556	504.282	482.955	476.812
<b>26.5</b>	469.414	472.702	490.006	512.415	496.452	528.421	502.162	480.100	473.524

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**CANDELA TABULATION - (Cont.)**

27.0	466.256	469.890	487.627	512.242	498.269	528.810	499.783	476.768	470.409
27.5	464.093	467.511	485.161	511.896	500.042	528.897	496.971	473.697	467.208
28.0	460.892	464.612	482.263	511.074	501.686	528.551	494.159	470.279	463.747
28.5	457.821	461.238	479.321	510.165	503.546	527.512	491.088	466.775	460.027
29.0	454.879	458.037	476.422	508.521	505.363	526.171	487.757	463.012	456.307
29.5	451.634	455.009	473.135	506.834	507.007	524.354	484.382	459.248	452.500
30.0	448.390	451.678	469.631	504.758	508.348	522.062	480.748	455.398	448.303
30.5	444.323	448.217	466.040	502.205	510.079	519.596	476.682	451.245	443.934
31.0	441.122	445.016	462.276	499.956	511.420	516.827	472.745	447.006	439.824
31.5	437.661	441.339	458.643	497.274	512.934	513.799	468.592	442.853	435.196
32.0	433.552	437.488	455.009	494.159	514.405	510.295	464.353	438.483	430.870
32.5	429.831	433.855	450.726	491.131	515.270	506.445	459.897	433.811	425.765
33.0	425.808	429.788	446.746	487.540	516.351	502.249	455.571	429.053	421.050
33.5	421.179	426.068	442.723	483.733	517.173	498.139	451.072	424.164	415.426
34.0	417.416	421.785	438.267	480.143	516.914	493.207	446.227	419.449	410.667
34.5	413.393	417.632	434.114	475.687	516.265	488.492	441.512	414.431	405.433
35.0	408.634	413.263	429.615	471.231	514.102	483.560	436.364	409.326	399.852
35.5	404.394	409.240	425.289	466.646	511.160	478.456	431.519	404.178	394.358
36.0	399.895	404.524	420.617	461.844	507.353	473.048	426.457	398.598	389.124
36.5	395.137	400.112	416.248	456.653	502.854	467.900	421.309	393.493	383.370
37.0	390.941	395.699	411.576	451.332	497.187	462.103	416.031	388.129	377.876
37.5	386.442	391.070	406.644	445.924	490.093	456.436	410.667	382.418	372.036
38.0	381.683	386.312	402.145	440.517	482.263	450.726	405.389	376.795	366.282
38.5	377.097	381.596	397.213	434.720	474.130	444.713	399.636	370.868	360.702
39.0	372.469	377.097	392.498	428.966	465.737	438.959	394.185	365.244	355.035
39.5	368.056	372.252	387.610	422.996	457.345	432.903	388.518	359.318	349.065
40.0	364.249	367.623	382.591	417.070	448.909	426.933	382.938	353.521	343.484
40.5	359.837	362.908	377.573	411.230	440.906	420.790	377.011	347.681	337.688
41.0	355.381	358.366	372.685	405.087	432.903	414.777	371.257	341.841	332.107
41.5	352.050	353.910	367.450	399.376	425.159	408.634	365.287	335.914	326.743
42.0	348.416	349.454	362.346	393.363	417.978	402.491	359.404	330.117	321.335
42.5	345.388	345.042	357.111	387.307	410.581	396.218	353.261	324.407	316.144
43.0	342.792	340.932	352.007	381.337	403.616	390.075	347.118	318.826	310.737
43.5	340.543	337.385	346.729	375.064	397.084	383.630	341.105	313.462	306.238
44.0	338.683	333.794	341.624	368.921	390.551	377.141	334.703	307.795	301.868
44.5	335.914	331.026	336.476	363.124	384.235	370.781	328.516	302.820	297.759
45.0	333.621	328.343	331.199	356.592	377.919	364.033	322.244	298.018	294.428
45.5	331.458	325.791	326.353	350.579	372.036	357.630	316.317	293.649	291.140
46.0	329.079	323.671	321.292	344.436	365.807	350.795	310.174	289.582	288.025
46.5	326.570	321.249	316.360	338.293	359.966	343.960	304.075	286.035	284.737
47.0	324.017	318.696	311.775	331.804	353.694	337.168	297.759	282.747	281.406
47.5	321.768	316.447	307.016	325.575	347.335	330.160	292.005	279.460	278.075
48.0	319.475	314.154	302.950	319.345	340.975	323.195	286.251	276.345	274.614
48.5	316.966	311.515	298.970	312.770	334.400	316.014	280.498	273.057	271.716
49.0	314.933	309.179	295.552	306.627	327.695	309.179	275.220	269.899	268.601
49.5	312.597	306.757	292.048	300.138	320.816	302.041	270.115	266.655	265.357
50.0	310.304	304.464	288.977	293.865	313.808	295.250	265.616	263.670	262.458
50.5	308.011	301.998	285.819	287.852	306.454	288.198	261.377	260.425	259.430
51.0	305.935	299.792	283.137	281.969	299.100	281.103	257.527	257.484	256.229
51.5	304.031	297.283	280.714	275.393	291.702	274.225	254.109	254.326	253.504
52.0	301.522	295.250	278.551	269.640	283.872	267.390	250.865	251.600	250.692
52.5	299.792	293.000	276.129	263.843	275.869	260.642	248.096	248.615	247.837
53.0	297.629	290.664	273.836	257.873	268.299	253.979	244.981	245.544	245.025
53.5	295.812	288.544	271.457	252.725	260.468	247.664	242.083	243.294	242.169
54.0	293.952	286.641	269.250	247.404	252.811	241.391	239.314	240.180	239.617
54.5	291.486	284.391	266.914	242.559	245.544	235.637	236.502	237.541	237.281

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**CANDELA TABULATION - (Cont.)**

55.0	289.539	282.661	264.665	238.190	238.146	229.797	233.734	234.772	234.512
55.5	288.241	280.714	262.372	234.556	231.181	224.346	230.965	232.263	232.220
56.0	286.468	278.724	260.252	230.835	224.173	219.761	228.197	229.711	229.624
56.5	284.694	276.734	257.873	227.850	217.641	215.392	225.514	227.245	227.115
57.0	283.180	275.134	255.753	224.649	211.541	212.061	223.005	224.692	224.779
57.5	281.363	272.971	253.633	221.621	205.485	209.422	220.410	222.227	222.443
58.0	279.935	271.240	251.384	219.415	199.861	207.259	217.641	219.891	220.064
58.5	277.946	269.640	249.480	217.728	194.930	204.966	215.175	217.468	217.555
59.0	276.604	267.823	247.490	215.694	190.733	202.846	212.753	215.002	215.348
59.5	274.917	266.092	245.414	213.921	187.273	200.770	210.157	212.882	213.358
60.0	273.100	264.492	243.511	212.061	184.677	198.607	207.908	210.546	210.849
60.5	271.500	262.848	241.650	210.157	182.514	196.314	205.485	208.124	208.903
61.0	270.072	261.161	239.704	208.167	180.740	194.064	203.019	206.004	206.393
61.5	268.904	259.690	237.497	206.393	179.140	191.945	200.856	203.755	204.533
62.0	267.174	257.959	235.854	204.187	177.626	189.868	198.477	201.592	202.154
62.5	265.573	256.316	233.993	202.414	175.852	187.619	196.357	199.472	199.904
63.0	264.189	254.715	232.047	200.467	174.165	185.456	194.194	197.049	198.044
63.5	262.372	253.114	230.316	198.563	172.434	183.293	191.988	195.189	195.752
64.0	260.944	251.730	228.716	196.746	170.661	181.346	189.695	193.113	193.805
64.5	259.906	250.173	226.812	194.713	168.844	179.140	187.705	191.123	191.685
65.0	258.435	248.615	225.385	192.896	167.113	177.150	185.585	188.960	189.695
65.5	256.791	247.101	223.438	191.166	165.296	174.857	183.249	187.186	187.662
66.0	255.364	245.760	221.881	189.263	163.523	172.910	181.303	185.110	185.715
66.5	254.109	244.116	220.150	187.273	161.792	170.920	179.140	183.076	183.898
67.0	252.768	242.862	218.463	185.802	159.716	168.757	176.933	181.043	181.865
67.5	251.168	241.348	216.733	183.985	158.115	166.638	175.160	179.140	179.875
68.0	249.783	239.790	215.219	181.908	156.428	164.950	173.213	177.150	178.101
68.5	248.572	238.363	213.661	180.308	154.525	162.701	171.180	175.419	176.414
69.0	247.317	237.108	211.974	178.534	152.665	160.970	169.406	173.473	174.165
69.5	245.933	235.637	210.460	176.631	150.934	159.110	167.416	171.612	172.434
70.0	244.722	234.383	208.773	175.073	149.074	156.991	165.643	169.796	170.790
70.5	243.121	232.912	207.086	173.386	147.257	155.130	163.739	168.065	168.541
71.0	241.737	231.528	205.874	171.439	145.483	153.270	161.836	166.075	167.027
71.5	240.655	230.446	204.360	169.925	143.753	151.410	159.975	164.388	165.253
72.0	239.401	229.018	202.760	168.152	142.066	149.420	158.245	162.528	163.523
72.5	238.233	227.677	201.419	166.335	140.292	147.690	156.428	160.884	161.706
73.0	236.805	226.380	199.948	164.907	138.562	145.829	154.741	159.024	160.019
73.5	235.464	225.168	198.434	163.133	136.831	143.969	152.881	157.423	158.245
74.0	234.556	223.741	197.049	161.403	135.188	142.196	151.237	155.693	156.644
74.5	233.561	222.400	195.492	159.975	133.327	140.379	149.507	154.006	154.871
75.0	232.133	221.318	194.151	158.461	131.813	138.778	147.906	152.448	153.097
75.5	230.706	219.977	192.940	156.731	130.169	137.134	146.176	150.588	151.497
76.0	229.538	218.766	191.599	155.260	128.396	135.274	144.445	148.987	149.766
76.5	228.153	217.555	190.084	153.789	126.709	133.760	142.801	147.344	148.252
77.0	226.769	216.257	189.003	152.232	125.238	132.116	141.071	145.829	146.695
77.5	226.077	215.219	187.575	150.631	123.507	130.299	139.514	144.099	145.267
78.0	224.779	213.921	186.061	149.247	122.080	128.828	137.956	142.498	143.537
78.5	223.308	212.623	184.980	147.517	120.393	127.228	136.399	140.941	142.023
79.0	222.529	211.412	183.682	146.262	118.835	125.497	134.755	139.427	140.162
79.5	221.015	210.244	182.211	144.964	117.278	123.897	133.198	137.783	138.735
80.0	220.323	209.032	181.130	143.277	115.807	122.339	131.640	136.269	137.221
80.5	219.069	207.994	179.745	141.979	114.423	120.825	129.996	134.885	135.880
81.0	217.814	206.869	178.491	140.595	112.909	119.268	128.699	133.284	134.106
81.5	216.992	205.528	177.366	139.211	111.654	117.970	127.228	131.856	132.678
82.0	215.565	204.404	176.025	137.999	110.226	116.413	125.584	130.559	131.337
82.5	214.613	203.495	174.684	136.745	108.756	114.812	124.199	129.088	129.910

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**CANDELA TABULATION - (Cont.)**

83.0	213.185	202.154	173.646	135.317	107.328	113.514	122.815	127.617	128.396
83.5	212.147	201.202	172.478	134.019	106.030	112.173	121.344	126.103	126.882
84.0	211.239	200.164	171.180	132.938	104.689	110.702	120.047	124.848	125.454
84.5	210.114	198.909	170.228	131.554	103.435	109.318	118.576	123.291	123.983
85.0	209.205	197.785	169.103	130.429	102.267	107.934	117.321	122.036	122.945
85.5	208.210	196.746	167.849	129.261	100.882	106.463	116.110	120.652	121.431
86.0	207.172	195.665	166.767	128.006	99.758	105.295	114.552	119.008	120.349
86.5	206.091	194.800	165.902	126.925	98.503	103.954	113.255	117.797	118.576
87.0	204.923	193.718	164.648	126.103	97.378	102.699	112.087	116.672	117.364
87.5	203.971	192.594	163.739	124.805	96.513	101.531	110.789	115.245	116.240
88.0	203.062	191.945	162.831	123.983	95.215	100.363	109.664	114.077	114.812
88.5	202.067	190.950	161.836	123.075	94.437	99.195	108.453	112.909	113.558
89.0	201.894	190.387	161.100	122.080	93.528	98.373	107.285	111.568	112.130
89.5	201.981	190.344	161.100	121.993	92.879	97.508	106.203	110.486	111.048
90.0	201.592	190.604	161.403	122.166	93.225	97.292	105.771	109.837	110.313
90.5	202.241	190.863	161.446	122.296	93.225	97.378	105.511	109.491	110.097
91.0	202.803	191.036	161.706	122.556	93.139	97.378	105.295	109.318	109.880
91.5	202.976	191.555	161.922	122.815	93.442	97.422	105.252	109.232	109.491
92.0	203.322	191.512	162.355	122.729	93.485	97.422	105.035	108.885	109.361
92.5	203.582	191.858	162.528	123.075	93.744	97.292	104.862	108.539	109.058
93.0	203.928	192.161	162.528	123.378	93.658	97.032	104.862	108.410	108.885
93.5	204.447	192.377	163.133	123.507	94.091	97.075	104.862	108.237	108.583
94.0	204.663	192.810	163.307	123.853	94.004	96.989	104.473	108.063	108.237
94.5	204.966	192.940	163.566	123.940	94.220	96.773	104.603	107.761	107.717
95.0	205.615	193.242	163.739	124.156	94.220	96.773	104.300	107.155	107.415
95.5	205.528	193.718	163.955	124.416	94.350	96.729	104.084	106.982	107.285
96.0	206.047	193.935	164.258	124.589	94.437	96.643	103.867	106.766	106.722
96.5	206.307	194.151	164.777	124.719	94.696	96.513	103.608	106.290	106.463
97.0	206.610	194.454	164.691	125.021	94.653	96.427	103.478	105.987	105.900
97.5	206.826	194.713	164.950	125.367	94.696	96.210	103.348	105.900	105.684
98.0	207.302	194.757	165.253	125.324	95.042	96.297	102.959	105.468	105.338
98.5	207.345	195.146	165.470	125.714	95.085	96.037	102.829	105.165	104.906
99.0	207.605	195.405	165.470	126.060	95.215	95.778	102.743	104.819	104.559
99.5	207.908	195.492	165.772	125.930	95.302	95.778	102.267	104.473	103.954
100.0	207.994	195.708	165.902	126.189	95.518	95.605	102.180	104.170	103.694
100.5	208.340	195.752	165.945	126.406	95.561	95.475	102.050	103.737	103.262
101.0	208.297	195.881	166.118	126.665	95.778	95.302	101.791	103.262	102.829
101.5	208.773	195.968	166.291	126.752	95.864	94.999	101.488	103.002	102.223
102.0	208.600	196.098	166.248	126.968	96.210	94.912	101.185	102.526	102.050
102.5	208.730	196.098	166.291	127.011	96.210	94.783	100.796	102.094	101.618
103.0	208.773	196.227	166.378	127.184	96.470	94.437	100.450	101.748	101.228
103.5	208.773	196.271	166.291	127.444	96.383	94.307	100.190	101.488	100.450
104.0	209.119	196.314	166.118	127.184	96.470	94.091	99.801	101.055	100.277
104.5	209.205	196.487	166.162	127.444	96.556	93.831	99.282	100.536	99.585
105.0	208.816	196.530	166.075	127.574	96.816	93.571	98.806	100.233	99.109
105.5	209.032	196.271	166.032	127.314	96.902	93.355	98.330	99.671	98.546
106.0	209.205	196.314	166.162	127.401	96.773	93.182	97.854	99.065	98.200
106.5	209.119	196.400	166.075	127.401	96.902	92.966	97.422	98.633	97.638
107.0	209.249	196.400	165.945	127.357	96.773	92.793	96.902	97.984	97.205
107.5	209.119	196.271	165.902	127.314	96.773	92.533	96.470	97.465	96.470
108.0	209.119	196.227	165.816	127.530	96.902	92.014	95.994	96.600	95.734
108.5	209.205	196.184	165.902	127.314	96.729	91.928	95.561	96.080	94.956
109.0	208.816	196.141	165.686	127.314	96.816	91.452	95.085	95.345	94.480
109.5	208.946	195.838	165.470	127.141	96.600	91.322	94.610	94.783	93.398
110.0	208.730	195.881	165.340	127.141	96.729	91.106	94.134	93.917	93.052
110.5	208.773	195.535	165.340	127.098	96.556	90.846	93.528	93.485	91.971

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**CANDELA TABULATION - (Cont.)**

111.0	208.513	195.578	165.167	127.228	96.600	90.586	93.139	92.749	91.192
111.5	208.383	195.449	165.167	127.055	96.383	90.370	92.447	92.144	90.803
112.0	207.864	195.362	164.994	127.011	96.340	89.938	92.014	91.365	89.851
112.5	207.994	195.189	164.648	126.882	96.427	89.808	91.625	90.759	88.986
113.0	207.908	194.930	164.648	126.752	96.383	89.418	91.149	90.111	88.207
113.5	207.648	194.713	164.431	126.579	96.254	89.245	90.457	89.202	87.602
114.0	207.302	194.583	164.128	126.579	96.210	89.029	90.024	88.726	86.909
114.5	207.388	194.324	163.999	126.362	96.167	88.596	89.591	87.731	86.044
115.0	206.869	194.021	163.609	126.189	95.951	88.337	88.683	86.780	85.049
115.5	206.696	194.064	163.436	126.060	95.994	87.991	88.467	85.914	84.270
116.0	206.264	193.459	163.090	125.757	95.648	87.948	87.731	84.746	83.362
116.5	206.307	193.286	162.874	125.714	95.778	87.428	86.996	83.838	82.454
117.0	205.745	192.983	162.528	125.497	95.561	87.255	86.693	83.016	80.896
117.5	205.269	192.550	162.398	125.281	95.345	86.953	86.217	81.848	80.074
118.0	205.009	192.247	161.879	124.935	95.172	86.563	85.525	80.983	78.690
118.5	204.620	192.074	161.619	124.762	94.912	86.260	84.919	80.031	77.695
119.0	204.101	191.512	161.317	124.675	94.783	86.001	84.573	79.036	76.484
119.5	203.668	191.252	161.014	124.459	94.783	85.741	83.795	77.911	75.186
120.0	203.279	190.993	160.754	124.113	94.480	85.439	83.449	76.743	74.018
120.5	202.976	190.301	160.408	123.680	94.264	85.006	82.800	75.705	72.893
121.0	202.543	189.998	159.889	123.680	93.917	84.703	82.107	74.753	71.725
121.5	201.765	189.695	159.456	123.464	93.917	84.270	81.805	73.802	70.514
122.0	201.419	189.046	159.154	122.945	93.788	83.924	81.199	72.720	69.259
122.5	200.813	188.614	158.851	122.642	93.442	83.795	80.637	71.812	68.221
123.0	200.337	188.224	158.288	122.512	93.225	83.276	80.161	70.817	67.053
123.5	199.688	187.402	157.812	121.950	93.052	83.016	79.685	69.951	65.625
124.0	199.602	186.797	157.510	121.777	92.966	82.756	78.906	68.913	64.674
124.5	198.520	186.364	157.034	121.474	92.620	82.324	78.517	68.048	63.635
125.0	197.785	185.672	156.601	121.128	92.317	82.237	78.128	67.096	62.554
125.5	197.049	185.110	155.952	120.652	92.101	81.848	77.652	66.274	61.732
126.0	196.184	184.331	155.476	120.393	92.014	81.675	77.349	65.539	60.824
126.5	195.838	183.595	154.914	119.960	91.798	81.459	76.787	64.674	59.915
127.0	194.540	183.033	154.438	119.744	91.668	81.242	76.138	63.982	59.007
127.5	193.675	182.168	153.789	119.354	91.495	80.896	75.792	63.376	58.314
128.0	193.069	181.389	153.227	118.878	91.192	80.810	75.402	62.424	57.536
128.5	192.118	180.524	152.621	118.619	91.192	80.723	74.840	61.646	56.800
129.0	191.166	180.048	152.102	118.143	90.803	80.334	74.407	60.780	56.065
129.5	190.517	179.096	151.367	117.840	90.630	80.074	74.104	60.045	55.589
130.0	189.263	178.491	150.761	117.235	90.457	79.598	73.326	59.353	54.897
130.5	188.527	177.626	150.069	116.932	90.457	79.469	73.023	58.704	53.988
131.0	187.662	176.760	149.420	116.672	90.024	79.209	72.590	58.098	53.599
131.5	186.926	176.025	148.858	116.110	89.851	79.036	72.071	57.276	53.210
132.0	185.672	175.160	148.036	115.980	89.721	78.863	71.639	56.671	52.474
132.5	184.547	174.035	147.430	115.331	89.462	78.603	71.336	56.022	51.825
133.0	183.768	173.213	146.738	114.812	89.072	78.344	70.817	55.459	51.696
133.5	182.600	172.348	146.003	114.466	89.029	78.128	70.427	55.027	51.047
134.0	181.649	171.310	145.310	113.947	88.640	78.041	69.951	54.421	50.831
134.5	180.740	170.358	144.575	113.384	88.596	77.781	69.649	53.772	50.268
135.0	179.659	169.449	143.666	112.865	88.250	77.435	69.216	53.383	49.836
135.5	178.621	168.281	143.104	112.433	87.991	77.479	68.783	52.907	49.403
136.0	177.453	167.676	142.239	111.914	87.688	77.003	68.264	52.128	48.841
136.5	176.371	166.681	141.503	111.568	87.472	76.787	67.788	51.782	48.278
137.0	175.160	165.513	140.725	110.919	87.255	76.527	67.615	51.263	47.673
137.5	173.948	164.518	139.946	110.443	86.823	76.311	66.966	50.657	47.456
138.0	172.651	163.480	139.124	110.010	86.736	75.921	66.750	50.398	47.326
138.5	171.656	162.355	138.432	109.448	86.477	75.921	66.577	49.965	46.764

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

139.0	170.358	161.446	137.524	108.799	86.001	75.792	65.972	49.360	46.418
139.5	169.233	160.278	136.658	108.280	85.785	75.489	65.669	49.014	45.985
140.0	168.368	159.240	135.490	107.847	85.655	75.402	65.366	48.538	45.553
140.5	167.157	157.986	134.885	107.025	85.136	75.013	64.803	48.192	45.163
141.0	165.945	157.164	133.933	106.722	84.963	74.710	64.630	47.586	44.644
141.5	164.907	155.779	133.154	106.030	84.617	74.667	64.198	47.153	44.212
142.0	163.653	154.741	132.159	105.338	84.184	74.407	63.852	46.634	43.693
142.5	162.138	153.660	131.337	104.819	83.924	74.104	63.635	46.418	43.173
143.0	160.927	152.405	130.386	104.127	83.622	74.018	63.333	45.726	43.044
143.5	159.629	151.150	129.347	103.435	83.276	73.629	62.814	45.336	42.654
144.0	158.418	149.982	128.439	102.916	82.800	73.326	62.727	44.990	42.395
144.5	157.120	148.771	127.530	102.353	82.497	73.412	62.640	44.731	42.092
145.0	155.736	147.733	126.709	101.488	82.107	73.066	62.165	44.168	41.876
145.5	154.481	146.522	125.757	101.012	81.848	72.763	61.862	43.952	41.832
146.0	153.054	145.224	124.719	100.363	81.415	72.417	61.732	43.649	42.092
146.5	151.799	143.883	123.637	99.671	80.939	72.287	61.343	43.000	42.049
147.0	150.545	142.715	122.815	98.979	80.507	72.028	61.386	42.698	41.919
147.5	149.247	141.244	121.820	98.287	80.377	71.812	60.997	42.438	42.049
148.0	147.690	140.033	120.739	97.638	79.815	71.509	60.737	42.092	42.135
148.5	146.219	138.865	119.830	96.902	79.598	71.249	60.521	41.703	42.222
149.0	144.661	137.697	118.749	96.297	79.079	71.076	60.434	41.313	42.438
149.5	143.580	136.356	117.710	95.432	78.603	70.946	60.175	41.140	42.654
150.0	142.109	134.885	116.672	94.826	78.084	70.514	59.958	40.837	42.611
150.5	140.682	133.760	115.591	94.134	77.825	70.427	59.829	40.664	42.871
151.0	139.297	132.203	114.639	93.269	77.349	70.081	59.569	40.621	43.173
151.5	138.043	130.948	113.644	92.663	76.916	69.908	59.353	40.275	43.000
152.0	136.226	129.780	112.476	92.057	76.527	69.562	59.180	39.886	42.914
152.5	134.755	128.266	111.524	91.149	76.008	69.389	58.834	39.842	43.087
153.0	133.630	126.838	110.226	90.240	75.662	69.173	58.877	39.669	43.044
153.5	131.900	125.584	109.318	89.548	75.143	68.827	58.790	39.626	43.217
154.0	130.429	124.199	108.150	88.856	74.710	68.524	58.444	39.540	43.087
154.5	128.828	122.729	106.939	87.991	74.321	68.221	58.444	39.540	43.000
155.0	127.228	121.215	105.900	87.169	73.931	67.875	58.185	39.496	43.000
155.5	125.800	119.744	104.819	86.304	73.412	67.615	57.839	39.583	43.260
156.0	124.416	118.446	103.651	85.698	72.893	67.442	57.839	39.626	43.260
156.5	122.512	117.018	102.396	84.746	72.590	67.053	57.839	39.453	43.520
157.0	121.344	115.677	101.401	83.838	71.898	66.793	57.579	39.107	43.433
157.5	119.657	114.206	100.147	83.016	71.336	66.361	57.493	38.934	43.217
158.0	118.143	112.606	99.152	82.324	70.946	66.145	57.449	38.631	43.217
158.5	116.802	111.351	98.114	81.372	70.298	65.798	57.233	38.069	43.173
159.0	115.115	109.967	96.773	80.507	69.778	65.323	57.146	37.853	43.217
159.5	113.558	108.410	95.648	79.771	69.259	65.193	57.060	37.333	43.260
160.0	111.957	106.852	94.437	78.690	68.697	64.717	56.757	37.290	43.217
160.5	110.529	105.425	93.312	77.868	68.221	64.544	56.498	37.074	43.173
161.0	108.842	103.867	92.014	77.089	67.745	64.111	56.238	36.987	43.520
161.5	107.025	102.396	90.933	75.965	67.096	63.765	55.849	36.468	43.693
162.0	105.338	100.926	89.462	75.013	66.577	63.333	55.459	36.122	43.909
162.5	103.737	99.411	88.337	74.277	66.274	63.030	54.854	35.733	43.909
163.0	102.137	97.811	87.126	73.282	65.452	62.597	53.513	35.473	43.995
163.5	100.406	96.383	85.785	72.417	65.106	62.165	52.085	34.824	44.255
164.0	98.979	94.783	84.617	71.595	64.587	62.035	50.311	33.743	44.125
164.5	97.205	93.139	83.362	70.427	63.938	61.516	48.105	32.791	43.303
165.0	95.518	91.495	82.107	69.519	63.333	60.694	46.072	32.315	42.005
165.5	93.701	90.024	80.810	68.481	62.770	59.742	43.909	32.099	40.275
166.0	92.144	88.423	79.469	67.659	62.035	58.228	41.313	31.926	38.285
166.5	90.284	86.736	77.955	66.750	61.213	56.151	39.150	31.493	35.473

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**CANDELA TABULATION - (Cont.)**

<b>167.0</b>	88.380	85.136	76.743	65.885	59.915	53.945	37.420	31.277	32.142
<b>167.5</b>	86.693	83.535	75.489	64.803	58.055	51.306	35.690	30.369	29.244
<b>168.0</b>	84.746	81.632	73.758	63.982	55.459	48.451	34.608	29.763	25.783
<b>168.5</b>	82.973	79.944	72.461	62.943	53.167	45.769	33.916	29.027	22.582
<b>169.0</b>	81.156	78.387	71.249	61.386	50.052	42.914	33.137	27.600	18.775
<b>169.5</b>	79.252	76.743	69.649	59.483	47.283	40.145	32.834	26.043	14.708
<b>170.0</b>	77.262	74.970	68.048	56.930	44.168	38.026	32.229	23.793	10.945
<b>170.5</b>	75.359	72.720	66.361	54.291	41.530	36.641	31.364	21.024	7.917
<b>171.0</b>	73.412	70.644	63.895	51.523	39.323	35.257	30.671	18.602	4.845
<b>171.5</b>	71.639	68.870	61.775	48.624	37.809	34.478	29.460	16.525	3.201
<b>172.0</b>	69.562	66.880	59.699	45.856	36.468	33.916	27.384	14.060	2.855
<b>172.5</b>	67.788	64.155	56.800	43.822	35.300	32.921	24.961	11.637	2.812
<b>173.0</b>	64.674	61.689	54.032	41.919	34.305	31.796	22.495	9.301	2.682
<b>173.5</b>	60.953	58.877	50.917	39.669	33.051	29.503	19.251	7.873	2.293
<b>174.0</b>	58.963	55.243	47.326	37.853	32.012	26.172	15.920	7.268	1.990
<b>174.5</b>	55.719	51.739	44.082	35.776	30.066	22.841	12.718	6.532	1.687
<b>175.0</b>	51.825	47.975	40.967	33.180	27.254	19.034	10.166	5.970	1.298
<b>175.5</b>	46.764	43.606	37.290	30.542	23.793	14.881	8.695	4.932	0.952
<b>176.0</b>	41.703	38.761	33.656	27.384	20.116	11.291	7.700	4.110	1.255
<b>176.5</b>	36.252	33.310	29.374	22.928	15.833	8.695	6.576	2.898	0.995
<b>177.0</b>	29.893	27.773	24.572	18.386	11.983	7.311	5.537	1.903	0.822
<b>177.5</b>	23.317	21.543	20.029	14.319	8.825	6.446	4.672	1.255	0.822
<b>178.0</b>	16.309	15.098	15.271	9.734	6.489	5.364	3.677	1.038	1.384
<b>178.5</b>	10.382	9.647	10.080	6.186	5.234	4.413	2.769	1.125	0.952
<b>179.0</b>	6.100	5.797	5.408	3.850	4.066	3.504	2.163	1.038	1.082
<b>179.5</b>	2.163	3.288	2.076	2.076	2.812	2.812	1.341	1.082	1.514
<b>180.0</b>	1.557	1.557	1.557	1.557	1.557	1.557	1.557	1.557	1.557



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FSN SEED 4 LIGHT.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	176.34	N.A.	7.40
0-30	404.95	N.A.	16.90
0-40	681.40	N.A.	28.50
0-60	1165.96	N.A.	48.70
0-80	1542.58	N.A.	64.40
0-90	1694.76	N.A.	70.80
10-90	1654.8	N.A.	69.10
20-40	505.06	N.A.	21.10
20-50	765.63	N.A.	32.00
40-70	684.24	N.A.	28.60
60-80	376.62	N.A.	15.70
70-80	176.94	N.A.	7.40
80-90	152.18	N.A.	6.40
90-110	278.23	N.A.	11.60
90-120	400.89	N.A.	16.70
90-130	503.41	N.A.	21.00
90-150	641.74	N.A.	26.80
90-180	700.27	N.A.	29.20
110-180	422.04	N.A.	17.60
0-180	2395.03	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	39.96
10-20	136.38
20-30	228.61
30-40	276.45
40-50	260.57
50-60	223.99
60-70	199.68
70-80	176.94
80-90	152.18
90-100	141.80
100-110	136.43
110-120	122.66
120-130	102.52
130-140	80.35
140-150	57.98
150-160	37.12
160-170	18.24
170-180	3.17

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FSN SEED 4 LIGHT.IES**

**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0	
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	112	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	71
1	100	94	89	85	85	94	89	85	81	80	76	73	71	68	66	63	61	59	54
2	90	81	74	68	68	85	77	70	65	69	64	59	61	57	53	54	51	48	44
3	82	71	63	56	56	77	67	60	54	60	54	49	54	49	44	47	44	40	37
4	75	63	54	47	47	70	59	51	45	53	47	41	48	42	38	42	38	34	31
5	69	56	47	40	40	65	53	45	39	48	41	36	43	37	33	38	33	30	27
6	63	50	41	35	35	60	48	40	34	43	36	31	38	33	28	34	30	26	23
7	59	45	37	31	31	55	43	35	29	39	32	27	35	29	25	31	27	23	21
8	54	41	33	27	27	51	39	31	26	36	29	24	32	26	22	29	24	21	18
9	51	38	30	24	24	48	36	28	23	33	26	22	29	24	20	27	22	19	16
10	47	35	27	22	22	45	33	26	21	30	24	20	27	22	18	25	20	17	15

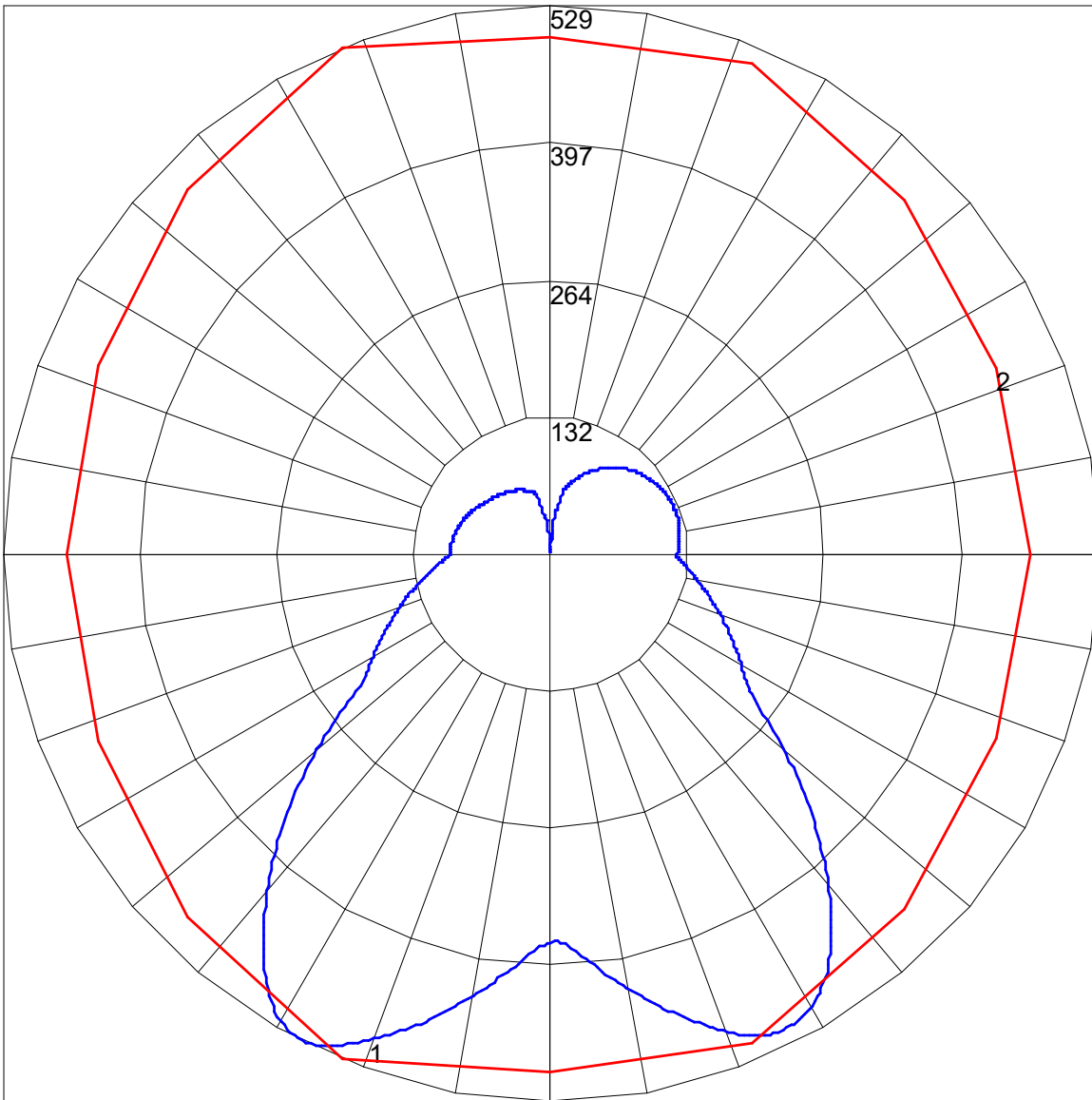
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FSN SEED 4 LIGHT.IES**

**UGR TABLE - CORRECTED**

Reflectances											
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30	
Walls	50	30	50	30	30	50	30	50	30	30	
Floor Cavity	20	20	20	20	20	20	20	20	20	20	
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	13.2	14.4	14.0	15.2	16.1	11.5	12.6	12.2	13.4	14.3
	3H	15.5	16.6	16.3	17.4	18.3	13.3	14.3	14.0	15.1	16.1
	4H	16.6	17.6	17.4	18.4	19.4	14.1	15.1	14.9	15.9	16.8
	6H	17.7	18.6	18.5	19.4	20.4	14.8	15.7	15.6	16.5	17.5
	8H	18.2	19.1	19.0	19.9	20.9	15.1	16.0	15.9	16.8	17.8
	12H	18.7	19.6	19.5	20.4	21.4	15.4	16.3	16.2	17.1	18.1
4H	2H	13.9	14.9	14.7	15.7	16.7	12.4	13.4	13.2	14.2	15.2
	3H	16.4	17.3	17.2	18.1	19.1	14.5	15.3	15.3	16.2	17.2
	4H	17.7	18.5	18.5	19.3	20.3	15.4	16.2	16.2	17.0	18.0
	6H	19.0	19.7	19.8	20.5	21.5	16.3	17.0	17.1	17.8	18.8
	8H	19.6	20.2	20.4	21.1	22.1	16.7	17.3	17.5	18.2	19.2
	12H	20.2	20.8	21.0	21.6	22.7	17.0	17.6	17.9	18.5	19.6
8H	4H	18.1	18.8	18.9	19.6	20.7	16.1	16.8	16.9	17.6	18.7
	6H	19.6	20.2	20.5	21.1	22.1	17.2	17.8	18.1	18.7	19.7
	8H	20.4	20.9	21.2	21.8	22.8	17.7	18.2	18.6	19.1	20.2
	12H	21.1	21.6	22.0	22.5	23.6	18.2	18.7	19.1	19.6	20.7
12H	4H	18.2	18.8	19.0	19.7	20.7	16.3	16.9	17.2	17.8	18.8
	6H	19.8	20.3	20.6	21.1	22.2	17.5	18.0	18.4	18.9	20.0
	8H	20.6	21.1	21.5	21.9	23.0	18.1	18.6	19.0	19.4	20.5

Maximum UGR = 23.6

POLAR GRAPH



Maximum Candela = 528.897 Located At Horizontal Angle = 112.5, Vertical Angle = 27.5  
# 1 - Vertical Plane Through Horizontal Angles (112.5 - 292.5) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (27.5) (Through Max. Cd.)