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## IES INDOOR REPORT

PHOTOMETRIC FILENAME : FSN WEVE 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) - Weave Glass (WEVE) 4-Light Bath Bar

[LUMINAIRE] Justice Design Group - Wall mount bathroom luminaire. Product ID: FSN WEVE 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	2281
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	76
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	3052	3474	7663
55	2573	2748	5538
65	2302	2389	4723
75	2137	2169	4940
85	2057	2063	5954

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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>	357.451	357.451	357.451	357.451	357.451	357.451	357.451	357.451	357.451
<b>0.5</b>	353.990	355.020	356.380	356.545	357.698	359.140	360.253	360.335	360.376
<b>1.0</b>	354.897	356.092	356.668	356.916	358.152	360.459	362.230	362.931	363.466
<b>1.5</b>	357.740	358.440	358.440	357.822	359.346	362.354	364.950	366.598	367.257
<b>2.0</b>	360.912	361.200	360.994	359.223	360.747	364.414	368.122	370.676	371.500
<b>2.5</b>	364.785	365.032	363.961	361.324	362.519	366.886	371.706	375.167	376.115
<b>3.0</b>	369.399	368.616	367.257	363.796	364.332	369.440	375.744	379.617	380.894
<b>3.5</b>	374.055	372.942	370.924	366.309	366.433	372.077	379.493	384.272	386.291
<b>4.0</b>	378.875	377.722	374.343	369.111	368.534	375.167	383.654	389.010	390.988
<b>4.5</b>	383.737	382.048	378.298	371.748	370.800	378.257	387.692	393.954	396.262
<b>5.0</b>	388.310	386.992	382.130	374.590	372.942	381.306	391.482	398.486	401.247
<b>5.5</b>	392.924	391.318	385.962	377.763	375.291	384.355	395.644	403.513	406.191
<b>6.0</b>	398.239	396.097	389.876	380.812	377.639	387.651	400.011	408.498	411.959
<b>6.5</b>	403.018	400.711	394.078	383.778	379.823	390.782	404.090	413.318	416.532
<b>7.0</b>	407.798	405.161	398.033	386.950	382.336	393.954	408.457	418.345	421.806
<b>7.5</b>	412.536	410.146	402.071	390.082	384.808	397.250	412.824	423.248	426.914
<b>8.0</b>	417.026	414.719	406.232	393.089	387.280	400.505	416.944	428.027	431.817
<b>8.5</b>	421.641	419.457	410.228	396.262	389.546	403.801	421.270	432.806	436.720
<b>9.0</b>	426.832	423.866	414.307	399.434	392.183	407.056	425.720	437.420	441.623
<b>9.5</b>	431.694	428.439	418.468	402.524	394.861	410.393	429.551	441.911	446.526
<b>10.0</b>	436.349	433.218	422.424	405.738	397.168	413.483	433.671	446.896	451.346
<b>10.5</b>	440.964	438.244	426.585	409.075	399.640	416.820	437.956	451.470	456.208
<b>11.0</b>	446.237	442.570	430.581	412.247	402.112	420.116	441.911	456.043	461.028
<b>11.5</b>	451.181	447.185	434.495	415.708	404.625	423.412	446.072	460.451	465.519
<b>12.0</b>	455.754	451.923	438.656	418.880	407.138	426.708	450.110	465.189	470.174
<b>12.5</b>	459.504	456.166	442.982	421.970	409.569	430.128	454.065	469.309	474.748
<b>13.0</b>	462.140	460.328	446.814	425.184	411.918	433.300	458.062	473.841	478.826
<b>13.5</b>	463.788	463.624	451.058	428.315	414.472	436.638	461.934	478.002	482.246
<b>14.0</b>	464.324	465.725	454.848	431.199	416.944	439.728	465.725	481.793	484.512
<b>14.5</b>	465.601	467.455	458.844	434.454	419.128	442.900	469.474	484.883	485.748
<b>15.0</b>	466.549	468.568	462.594	437.585	421.847	446.031	473.429	487.108	486.284
<b>15.5</b>	467.496	469.433	466.178	440.758	424.319	448.998	477.014	487.973	486.119
<b>16.0</b>	467.826	470.545	469.227	443.889	426.420	452.170	480.598	488.508	485.872
<b>16.5</b>	468.238	470.669	471.987	446.814	428.686	455.219	484.265	488.426	485.295
<b>17.0</b>	468.279	470.957	474.377	449.780	431.364	458.062	487.520	488.014	484.430
<b>17.5</b>	468.815	471.575	476.272	452.870	433.506	460.904	490.321	487.561	484.100
<b>18.0</b>	468.526	471.493	477.467	455.713	435.772	463.953	492.834	486.778	482.988
<b>18.5</b>	468.815	471.452	478.497	458.597	438.162	466.714	494.400	486.036	481.875
<b>19.0</b>	468.732	471.658	478.950	461.481	440.469	469.639	495.265	485.212	480.804
<b>19.5</b>	468.114	471.040	479.280	464.406	442.776	472.317	495.595	484.306	479.568
<b>20.0</b>	467.332	470.875	479.403	467.002	444.960	475.242	495.430	483.070	478.579
<b>20.5</b>	466.672	470.504	479.362	469.886	447.391	477.879	494.977	481.999	477.137
<b>21.0</b>	465.148	469.474	479.197	472.482	449.616	480.639	494.318	480.763	475.778
<b>21.5</b>	464.324	468.444	478.868	475.201	451.923	483.358	493.452	479.238	474.418
<b>22.0</b>	463.500	467.661	478.332	477.673	454.230	485.830	492.546	477.838	472.646
<b>22.5</b>	462.140	466.302	477.796	480.021	456.578	488.467	491.640	476.107	470.545
<b>23.0</b>	460.822	464.695	477.220	482.081	458.762	490.774	490.362	474.294	468.815
<b>23.5</b>	458.927	462.800	476.066	483.523	460.698	493.205	488.920	472.564	466.466
<b>24.0</b>	457.114	460.822	475.036	484.759	463.006	495.471	487.520	470.216	464.077
<b>24.5</b>	455.548	459.215	473.841	485.830	465.024	497.696	485.954	467.620	461.934
<b>25.0</b>	453.653	457.032	472.193	486.696	467.084	499.632	484.182	465.436	459.504
<b>25.5</b>	451.552	454.972	470.628	487.355	469.144	501.116	482.493	462.800	456.743
<b>26.0</b>	449.245	452.623	468.691	487.520	470.916	502.434	480.268	459.957	454.106
<b>26.5</b>	447.061	450.192	466.672	488.014	472.811	503.258	478.250	457.238	450.975

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**CANDELA TABULATION - (Cont.)**

27.0	444.054	447.514	464.406	487.849	474.542	503.629	475.984	454.065	448.009
27.5	441.994	445.248	462.058	487.520	476.231	503.711	473.306	451.140	444.960
28.0	438.945	442.488	459.298	486.737	477.796	503.382	470.628	447.885	441.664
28.5	436.020	439.274	456.496	485.872	479.568	502.393	467.702	444.548	438.121
29.0	433.218	436.226	453.736	484.306	481.298	501.116	464.530	440.964	434.578
29.5	430.128	433.342	450.604	482.699	482.864	499.385	461.316	437.379	430.952
30.0	427.038	430.169	447.267	480.722	484.141	497.202	457.856	433.712	426.956
30.5	423.165	426.873	443.848	478.291	485.789	494.853	453.983	429.757	422.794
31.0	420.116	423.824	440.263	476.148	487.066	492.216	450.234	425.720	418.880
31.5	416.820	420.322	436.802	473.594	488.508	489.332	446.278	421.764	414.472
32.0	412.906	416.656	433.342	470.628	489.909	485.995	442.241	417.603	410.352
32.5	409.363	413.195	429.263	467.744	490.733	482.328	437.997	413.154	405.490
33.0	405.532	409.322	425.472	464.324	491.763	478.332	433.877	408.622	401.000
33.5	401.123	405.779	421.641	460.698	492.546	474.418	429.592	403.966	395.644
34.0	397.539	401.700	417.397	457.279	492.299	469.721	424.978	399.475	391.112
34.5	393.707	397.745	413.442	453.035	491.681	465.230	420.487	394.696	386.126
35.0	389.175	393.584	409.157	448.792	489.621	460.534	415.584	389.834	380.812
35.5	385.138	389.752	405.037	444.424	486.819	455.672	410.970	384.932	375.579
36.0	380.853	385.261	400.588	439.851	483.194	450.522	406.150	379.617	370.594
36.5	376.321	381.059	396.426	434.907	478.909	445.619	401.247	374.755	365.114
37.0	372.324	376.856	391.977	429.840	473.512	440.098	396.220	369.646	359.882
37.5	368.040	372.448	387.280	424.690	466.755	434.701	391.112	364.208	354.320
38.0	363.508	367.916	382.995	419.540	459.298	429.263	386.085	358.852	348.840
38.5	359.140	363.425	378.298	414.019	451.552	423.536	380.606	353.208	343.526
39.0	354.732	359.140	373.808	408.539	443.559	418.056	375.414	347.852	338.128
39.5	350.530	354.526	369.152	402.854	435.566	412.288	370.017	342.207	332.443
40.0	346.904	350.118	364.373	397.209	427.532	406.603	364.702	336.686	327.128
40.5	342.702	345.627	359.594	391.647	419.910	400.752	359.058	331.124	321.607
41.0	338.458	341.301	354.938	385.797	412.288	395.026	353.578	325.562	316.292
41.5	335.286	337.057	349.953	380.358	404.914	389.175	347.893	319.918	311.184
42.0	331.825	332.814	345.091	374.632	398.074	383.325	342.290	314.397	306.034
42.5	328.941	328.611	340.106	368.864	391.029	377.351	336.439	308.959	301.090
43.0	326.469	324.697	335.244	363.178	384.396	371.500	330.589	303.644	295.940
43.5	324.326	321.319	330.218	357.204	378.175	365.362	324.862	298.535	291.655
44.0	322.555	317.899	325.356	351.354	371.954	359.182	318.764	293.138	287.494
44.5	319.918	315.262	320.454	345.833	365.938	353.125	312.873	288.400	283.580
45.0	317.734	312.708	315.427	339.612	359.923	346.698	306.899	283.827	280.407
45.5	315.674	310.277	310.813	333.885	354.320	340.600	301.254	279.666	277.276
46.0	313.408	308.258	305.992	328.034	348.387	334.091	295.404	275.793	274.310
46.5	311.019	305.951	301.296	322.184	342.825	327.581	289.595	272.414	271.178
47.0	308.588	303.520	296.928	316.004	336.851	321.113	283.580	269.283	268.006
47.5	306.446	301.378	292.396	310.071	330.795	314.438	278.100	266.152	264.834
48.0	304.262	299.194	288.524	304.138	324.738	307.805	272.620	263.186	261.538
48.5	301.872	296.681	284.733	297.876	318.476	300.966	267.141	260.054	258.777
49.0	299.936	294.456	281.478	292.026	312.090	294.456	262.114	257.047	255.811
49.5	297.711	292.149	278.141	285.846	305.539	287.658	257.253	253.957	252.721
50.0	295.528	289.966	275.216	279.872	298.865	281.190	252.968	251.114	249.960
50.5	293.344	287.617	272.208	274.145	291.861	274.474	248.930	248.024	247.076
51.0	291.366	285.516	269.654	268.542	284.857	267.718	245.264	245.222	244.028
51.5	289.554	283.126	267.347	262.279	277.812	261.167	242.009	242.215	241.432
52.0	287.164	281.190	265.287	256.800	270.354	254.657	238.919	239.619	238.754
52.5	285.516	279.048	262.980	251.279	262.732	248.230	236.282	236.776	236.035
53.0	283.456	276.823	260.796	245.593	255.522	241.885	233.316	233.851	233.357
53.5	281.726	274.804	258.530	240.690	248.065	235.870	230.555	231.709	230.638
54.0	279.954	272.991	256.429	235.623	240.773	229.896	227.918	228.742	228.207
54.5	277.606	270.849	254.204	231.008	233.851	224.416	225.240	226.229	225.982

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**CANDELA TABULATION - (Cont.)**

55.0	275.752	269.201	252.062	226.847	226.806	218.854	222.604	223.592	223.345
55.5	274.516	267.347	249.878	223.386	220.173	213.663	219.967	221.203	221.162
56.0	272.826	265.452	247.859	219.843	213.498	209.296	217.330	218.772	218.690
56.5	271.137	263.556	245.593	217.000	207.277	205.135	214.776	216.424	216.300
57.0	269.695	262.032	243.574	213.952	201.468	201.962	212.386	213.993	214.075
57.5	267.965	259.972	241.556	211.068	195.700	199.449	209.914	211.644	211.850
58.0	266.605	258.324	239.413	208.966	190.344	197.389	207.277	209.420	209.584
58.5	264.710	256.800	237.600	207.360	185.647	195.206	204.929	207.112	207.195
59.0	263.433	255.069	235.705	205.423	181.651	193.187	202.622	204.764	205.094
59.5	261.826	253.421	233.728	203.734	178.355	191.209	200.150	202.745	203.198
60.0	260.096	251.897	231.915	201.962	175.883	189.149	198.007	200.520	200.809
60.5	258.571	250.331	230.143	200.150	173.823	186.966	195.700	198.213	198.955
61.0	257.212	248.724	228.289	198.254	172.134	184.823	193.352	196.194	196.565
61.5	256.099	247.324	226.188	196.565	170.609	182.804	191.292	194.052	194.794
62.0	254.451	245.676	224.622	194.464	169.167	180.827	189.026	191.992	192.528
62.5	252.927	244.110	222.851	192.775	167.478	178.684	187.007	189.973	190.385
63.0	251.608	242.586	220.997	190.921	165.871	176.624	184.947	187.666	188.614
63.5	249.878	241.061	219.349	189.108	164.223	174.564	182.846	185.894	186.430
64.0	248.518	239.743	217.824	187.378	162.534	172.710	180.662	183.917	184.576
64.5	247.530	238.260	216.012	185.441	160.804	170.609	178.767	182.022	182.557
65.0	246.129	236.776	214.652	183.711	159.156	168.714	176.748	179.962	180.662
65.5	244.563	235.334	212.798	182.063	157.425	166.530	174.523	178.272	178.726
66.0	243.204	234.057	211.315	180.250	155.736	164.676	172.669	176.295	176.872
66.5	242.009	232.492	209.667	178.355	154.088	162.781	170.609	174.358	175.141
67.0	240.732	231.297	208.060	176.954	152.110	160.721	168.508	172.422	173.205
67.5	239.207	229.855	206.412	175.224	150.586	158.702	166.819	170.609	171.310
68.0	237.889	228.372	204.970	173.246	148.979	157.096	164.965	168.714	169.620
68.5	236.735	227.012	203.487	171.722	147.166	154.953	163.028	167.066	168.014
69.0	235.540	225.817	201.880	170.032	145.395	153.305	161.339	165.212	165.871
69.5	234.222	224.416	200.438	168.220	143.747	151.534	159.444	163.440	164.223
70.0	233.068	223.222	198.831	166.736	141.975	149.515	157.755	161.710	162.658
70.5	231.544	221.821	197.224	165.130	140.245	147.743	155.942	160.062	160.515
71.0	230.226	220.502	196.071	163.276	138.556	145.972	154.129	158.167	159.073
71.5	229.196	219.472	194.629	161.834	136.908	144.200	152.358	156.560	157.384
72.0	228.001	218.113	193.104	160.144	135.301	142.305	150.710	154.788	155.736
72.5	226.888	216.836	191.827	158.414	133.612	140.657	148.979	153.223	154.006
73.0	225.529	215.600	190.426	157.054	131.964	138.885	147.372	151.451	152.399
73.5	224.252	214.446	188.984	155.365	130.316	137.114	145.601	149.927	150.710
74.0	223.386	213.086	187.666	153.717	128.750	135.424	144.035	148.279	149.185
74.5	222.439	211.809	186.183	152.358	126.978	133.694	142.387	146.672	147.496
75.0	221.079	210.779	184.906	150.916	125.536	132.170	140.863	145.189	145.807
75.5	219.720	209.502	183.752	149.268	123.971	130.604	139.215	143.417	144.282
76.0	218.607	208.348	182.475	147.867	122.282	128.832	137.567	141.893	142.634
76.5	217.289	207.195	181.033	146.466	120.675	127.390	136.001	140.327	141.192
77.0	215.970	205.959	180.003	144.983	119.274	125.825	134.353	138.885	139.709
77.5	215.311	204.970	178.643	143.458	117.626	124.094	132.870	137.237	138.350
78.0	214.075	203.734	177.201	142.140	116.266	122.694	131.387	135.713	136.702
78.5	212.674	202.498	176.171	140.492	114.660	121.169	129.904	134.230	135.260
79.0	211.933	201.344	174.935	139.297	113.176	119.521	128.338	132.788	133.488
79.5	210.491	200.232	173.534	138.061	111.693	117.997	126.855	131.222	132.128
80.0	209.832	199.078	172.504	136.454	110.292	116.514	125.372	129.780	130.686
80.5	208.637	198.090	171.186	135.218	108.974	115.072	123.806	128.462	129.409
81.0	207.442	197.018	169.991	133.900	107.532	113.588	122.570	126.937	127.720
81.5	206.659	195.741	168.920	132.582	106.337	112.352	121.169	125.578	126.360
82.0	205.300	194.670	167.643	131.428	104.978	110.869	119.604	124.342	125.083
82.5	204.393	193.805	166.366	130.233	103.577	109.345	118.285	122.941	123.724

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**CANDELA TABULATION - (Cont.)**

83.0	203.034	192.528	165.377	128.874	102.217	108.109	116.967	121.540	122.282
83.5	202.045	191.621	164.264	127.638	100.981	106.832	115.566	120.098	120.840
84.0	201.180	190.632	163.028	126.608	99.704	105.431	114.330	118.903	119.480
84.5	200.108	189.438	162.122	125.289	98.509	104.112	112.929	117.420	118.079
85.0	199.243	188.366	161.051	124.218	97.397	102.794	111.734	116.225	117.090
85.5	198.296	187.378	159.856	123.106	96.078	101.393	110.581	114.907	115.648
86.0	197.307	186.348	158.826	121.911	95.007	100.281	109.098	113.341	114.618
86.5	196.277	185.524	158.002	120.881	93.812	99.004	107.862	112.188	112.929
87.0	195.164	184.494	156.807	120.098	92.741	97.809	106.749	111.116	111.776
87.5	194.258	183.422	155.942	118.862	91.917	96.696	105.513	109.757	110.704
88.0	193.393	182.804	155.077	118.079	90.681	95.584	104.442	108.644	109.345
88.5	192.445	181.857	154.129	117.214	89.940	94.472	103.288	107.532	108.150
89.0	192.280	181.321	153.429	116.266	89.074	93.689	102.176	106.255	106.790
89.5	192.363	181.280	153.429	116.184	88.456	92.865	101.146	105.225	105.760
90.0	191.992	181.527	153.717	116.349	88.786	92.659	100.734	104.607	105.060
90.5	192.610	181.774	153.758	116.472	88.786	92.741	100.487	104.277	104.854
91.0	193.146	181.939	154.006	116.720	88.704	92.741	100.281	104.112	104.648
91.5	193.310	182.434	154.212	116.967	88.992	92.782	100.240	104.030	104.277
92.0	193.640	182.392	154.624	116.884	89.033	92.782	100.034	103.700	104.154
92.5	193.887	182.722	154.788	117.214	89.280	92.659	99.869	103.371	103.865
93.0	194.217	183.010	154.788	117.502	89.198	92.412	99.869	103.247	103.700
93.5	194.711	183.216	155.365	117.626	89.610	92.453	99.869	103.082	103.412
94.0	194.917	183.628	155.530	117.956	89.528	92.370	99.498	102.918	103.082
94.5	195.206	183.752	155.777	118.038	89.734	92.164	99.622	102.629	102.588
95.0	195.824	184.040	155.942	118.244	89.734	92.164	99.333	102.052	102.300
95.5	195.741	184.494	156.148	118.491	89.857	92.123	99.127	101.888	102.176
96.0	196.236	184.700	156.436	118.656	89.940	92.041	98.921	101.682	101.640
96.5	196.483	184.906	156.931	118.780	90.187	91.917	98.674	101.228	101.393
97.0	196.771	185.194	156.848	119.068	90.146	91.835	98.550	100.940	100.858
97.5	196.977	185.441	157.096	119.398	90.187	91.629	98.427	100.858	100.652
98.0	197.430	185.482	157.384	119.356	90.516	91.711	98.056	100.446	100.322
98.5	197.472	185.853	157.590	119.727	90.558	91.464	97.932	100.157	99.910
99.0	197.719	186.100	157.590	120.057	90.681	91.217	97.850	99.828	99.580
99.5	198.007	186.183	157.878	119.933	90.764	91.217	97.397	99.498	99.004
100.0	198.090	186.389	158.002	120.180	90.970	91.052	97.314	99.210	98.756
100.5	198.419	186.430	158.043	120.386	91.011	90.928	97.191	98.798	98.344
101.0	198.378	186.554	158.208	120.634	91.217	90.764	96.944	98.344	97.932
101.5	198.831	186.636	158.373	120.716	91.299	90.475	96.655	98.097	97.356
102.0	198.666	186.760	158.332	120.922	91.629	90.393	96.367	97.644	97.191
102.5	198.790	186.760	158.373	120.963	91.629	90.269	95.996	97.232	96.779
103.0	198.831	186.883	158.455	121.128	91.876	89.940	95.666	96.902	96.408
103.5	198.831	186.924	158.373	121.375	91.794	89.816	95.419	96.655	95.666
104.0	199.161	186.966	158.208	121.128	91.876	89.610	95.048	96.243	95.502
104.5	199.243	187.130	158.249	121.375	91.958	89.363	94.554	95.749	94.842
105.0	198.872	187.172	158.167	121.499	92.206	89.116	94.101	95.460	94.389
105.5	199.078	186.924	158.126	121.252	92.288	88.910	93.648	94.925	93.854
106.0	199.243	186.966	158.249	121.334	92.164	88.745	93.194	94.348	93.524
106.5	199.161	187.048	158.167	121.334	92.288	88.539	92.782	93.936	92.988
107.0	199.284	187.048	158.043	121.293	92.164	88.374	92.288	93.318	92.576
107.5	199.161	186.924	158.002	121.252	92.164	88.127	91.876	92.824	91.876
108.0	199.161	186.883	157.920	121.458	92.288	87.632	91.423	92.000	91.176
108.5	199.243	186.842	158.002	121.252	92.123	87.550	91.011	91.505	90.434
109.0	198.872	186.801	157.796	121.252	92.206	87.097	90.558	90.805	89.981
109.5	198.996	186.512	157.590	121.087	92.000	86.973	90.104	90.269	88.951
110.0	198.790	186.554	157.466	121.087	92.123	86.767	89.651	89.445	88.621
110.5	198.831	186.224	157.466	121.046	91.958	86.520	89.074	89.033	87.591

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

111.0	198.584	186.265	157.302	121.169	92.000	86.273	88.704	88.333	86.850
111.5	198.460	186.142	157.302	121.004	91.794	86.067	88.044	87.756	86.479
112.0	197.966	186.059	157.137	120.963	91.752	85.655	87.632	87.014	85.572
112.5	198.090	185.894	156.807	120.840	91.835	85.531	87.262	86.438	84.748
113.0	198.007	185.647	156.807	120.716	91.794	85.160	86.808	85.820	84.007
113.5	197.760	185.441	156.601	120.551	91.670	84.996	86.149	84.954	83.430
114.0	197.430	185.318	156.313	120.551	91.629	84.790	85.737	84.501	82.771
114.5	197.513	185.070	156.189	120.345	91.588	84.378	85.325	83.554	81.947
115.0	197.018	184.782	155.818	120.180	91.382	84.130	84.460	82.647	80.999
115.5	196.854	184.823	155.654	120.057	91.423	83.801	84.254	81.823	80.258
116.0	196.442	184.246	155.324	119.768	91.093	83.760	83.554	80.711	79.392
116.5	196.483	184.082	155.118	119.727	91.217	83.265	82.853	79.846	78.527
117.0	195.947	183.793	154.788	119.521	91.011	83.100	82.565	79.063	77.044
117.5	195.494	183.381	154.665	119.315	90.805	82.812	82.112	77.950	76.261
118.0	195.247	183.093	154.170	118.986	90.640	82.441	81.452	77.126	74.943
118.5	194.876	182.928	153.923	118.821	90.393	82.153	80.876	76.220	73.995
119.0	194.382	182.392	153.635	118.738	90.269	81.906	80.546	75.272	72.842
119.5	193.970	182.145	153.346	118.532	90.269	81.658	79.804	74.201	71.606
120.0	193.599	181.898	153.099	118.203	89.981	81.370	79.475	73.089	70.493
120.5	193.310	181.239	152.770	117.791	89.775	80.958	78.857	72.100	69.422
121.0	192.898	180.950	152.275	117.791	89.445	80.670	78.198	71.194	68.310
121.5	192.157	180.662	151.863	117.585	89.445	80.258	77.909	70.287	67.156
122.0	191.827	180.044	151.575	117.090	89.322	79.928	77.332	69.257	65.961
122.5	191.250	179.632	151.286	116.802	88.992	79.804	76.797	68.392	64.972
123.0	190.797	179.261	150.751	116.678	88.786	79.310	76.344	67.444	63.860
123.5	190.179	178.478	150.298	116.143	88.621	79.063	75.890	66.620	62.500
124.0	190.097	177.902	150.009	115.978	88.539	78.816	75.149	65.632	61.594
124.5	189.067	177.490	149.556	115.690	88.209	78.404	74.778	64.808	60.605
125.0	188.366	176.830	149.144	115.360	87.921	78.321	74.407	63.901	59.575
125.5	187.666	176.295	148.526	114.907	87.715	77.950	73.954	63.118	58.792
126.0	186.842	175.553	148.073	114.660	87.632	77.786	73.666	62.418	57.927
126.5	186.512	174.853	147.537	114.248	87.426	77.580	73.130	61.594	57.062
127.0	185.276	174.317	147.084	114.042	87.303	77.374	72.512	60.935	56.197
127.5	184.452	173.493	146.466	113.671	87.138	77.044	72.182	60.358	55.538
128.0	183.876	172.752	145.930	113.218	86.850	76.962	71.812	59.452	54.796
128.5	182.969	171.928	145.354	112.970	86.850	76.879	71.276	58.710	54.096
129.0	182.063	171.474	144.859	112.517	86.479	76.508	70.864	57.886	53.395
129.5	181.445	170.568	144.159	112.229	86.314	76.261	70.576	57.186	52.942
130.0	180.250	169.991	143.582	111.652	86.149	75.808	69.834	56.526	52.283
130.5	179.550	169.167	142.923	111.364	86.149	75.684	69.546	55.908	51.418
131.0	178.726	168.343	142.305	111.116	85.737	75.437	69.134	55.332	51.047
131.5	178.025	167.643	141.769	110.581	85.572	75.272	68.639	54.549	50.676
132.0	176.830	166.819	140.986	110.457	85.449	75.108	68.227	53.972	49.976
132.5	175.759	165.748	140.410	109.839	85.202	74.860	67.939	53.354	49.358
133.0	175.018	164.965	139.750	109.345	84.831	74.613	67.444	52.818	49.234
133.5	173.905	164.141	139.050	109.015	84.790	74.407	67.074	52.406	48.616
134.0	172.999	163.152	138.391	108.521	84.419	74.325	66.620	51.830	48.410
134.5	172.134	162.246	137.690	107.985	84.378	74.078	66.332	51.212	47.874
135.0	171.104	161.380	136.825	107.491	84.048	73.748	65.920	50.841	47.462
135.5	170.115	160.268	136.290	107.079	83.801	73.789	65.508	50.388	47.050
136.0	169.002	159.691	135.466	106.584	83.512	73.336	65.014	49.646	46.515
136.5	167.972	158.744	134.765	106.255	83.306	73.130	64.560	49.316	45.979
137.0	166.819	157.631	134.024	105.637	83.100	72.883	64.396	48.822	45.402
137.5	165.665	156.684	133.282	105.184	82.688	72.677	63.778	48.245	45.196
138.0	164.429	155.695	132.499	104.772	82.606	72.306	63.572	47.998	45.073
138.5	163.482	154.624	131.840	104.236	82.359	72.306	63.407	47.586	44.537

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

**CANDELA TABULATION - (Cont.)**

139.0	162.246	153.758	130.975	103.618	81.906	72.182	62.830	47.009	44.208
139.5	161.174	152.646	130.151	103.124	81.700	71.894	62.542	46.680	43.796
140.0	160.350	151.657	129.038	102.712	81.576	71.812	62.253	46.226	43.384
140.5	159.197	150.462	128.462	101.929	81.082	71.441	61.718	45.897	43.013
141.0	158.043	149.680	127.555	101.640	80.917	71.152	61.553	45.320	42.518
141.5	157.054	148.361	126.814	100.981	80.587	71.111	61.141	44.908	42.106
142.0	155.860	147.372	125.866	100.322	80.175	70.864	60.811	44.414	41.612
142.5	154.418	146.342	125.083	99.828	79.928	70.576	60.605	44.208	41.118
143.0	153.264	145.148	124.177	99.168	79.640	70.493	60.317	43.548	40.994
143.5	152.028	143.953	123.188	98.509	79.310	70.122	59.822	43.178	40.623
144.0	150.874	142.840	122.323	98.015	78.857	69.834	59.740	42.848	40.376
144.5	149.638	141.687	121.458	97.479	78.568	69.916	59.658	42.601	40.088
145.0	148.320	140.698	120.675	96.655	78.198	69.587	59.204	42.065	39.882
145.5	147.125	139.544	119.768	96.202	77.950	69.298	58.916	41.859	39.840
146.0	145.766	138.308	118.780	95.584	77.538	68.969	58.792	41.571	40.088
146.5	144.571	137.031	117.750	94.925	77.085	68.845	58.422	40.953	40.046
147.0	143.376	135.919	116.967	94.266	76.673	68.598	58.463	40.664	39.923
147.5	142.140	134.518	116.019	93.606	76.550	68.392	58.092	40.417	40.046
148.0	140.657	133.364	114.989	92.988	76.014	68.104	57.845	40.088	40.129
148.5	139.256	132.252	114.124	92.288	75.808	67.856	57.639	39.717	40.211
149.0	137.773	131.140	113.094	91.711	75.314	67.692	57.556	39.346	40.417
149.5	136.743	129.862	112.105	90.887	74.860	67.568	57.309	39.181	40.623
150.0	135.342	128.462	111.116	90.310	74.366	67.156	57.103	38.893	40.582
150.5	133.982	127.390	110.086	89.651	74.119	67.074	56.980	38.728	40.829
151.0	132.664	125.907	109.180	88.827	73.666	66.744	56.732	38.687	41.118
151.5	131.469	124.712	108.232	88.250	73.254	66.579	56.526	38.357	40.953
152.0	129.739	123.600	107.120	87.674	72.883	66.250	56.362	37.986	40.870
152.5	128.338	122.158	106.214	86.808	72.388	66.085	56.032	37.945	41.035
153.0	127.267	120.798	104.978	85.943	72.059	65.879	56.073	37.780	40.994
153.5	125.619	119.604	104.112	85.284	71.564	65.549	55.991	37.739	41.159
154.0	124.218	118.285	103.000	84.625	71.152	65.261	55.661	37.657	41.035
154.5	122.694	116.884	101.846	83.801	70.782	64.972	55.661	37.657	40.953
155.0	121.169	115.442	100.858	83.018	70.411	64.643	55.414	37.616	40.953
155.5	119.810	114.042	99.828	82.194	69.916	64.396	55.084	37.698	41.200
156.0	118.491	112.806	98.715	81.617	69.422	64.231	55.084	37.739	41.200
156.5	116.678	111.446	97.520	80.711	69.134	63.860	55.084	37.574	41.447
157.0	115.566	110.169	96.573	79.846	68.474	63.613	54.837	37.245	41.365
157.5	113.959	108.768	95.378	79.063	67.939	63.201	54.755	37.080	41.159
158.0	112.517	107.244	94.430	78.404	67.568	62.995	54.714	36.792	41.159
158.5	111.240	106.049	93.442	77.497	66.950	62.665	54.508	36.256	41.118
159.0	109.633	104.730	92.164	76.673	66.456	62.212	54.425	36.050	41.159
159.5	108.150	103.247	91.093	75.973	65.961	62.088	54.343	35.556	41.200
160.0	106.626	101.764	89.940	74.943	65.426	61.635	54.054	35.514	41.159
160.5	105.266	100.404	88.868	74.160	64.972	61.470	53.807	35.308	41.118
161.0	103.659	98.921	87.632	73.418	64.519	61.058	53.560	35.226	41.447
161.5	101.929	97.520	86.602	72.347	63.901	60.729	53.189	34.732	41.612
162.0	100.322	96.120	85.202	71.441	63.407	60.317	52.818	34.402	41.818
162.5	98.798	94.678	84.130	70.740	63.118	60.028	52.242	34.031	41.818
163.0	97.273	93.153	82.977	69.793	62.336	59.616	50.964	33.784	41.900
163.5	95.625	91.794	81.700	68.969	62.006	59.204	49.605	33.166	42.148
164.0	94.266	90.269	80.587	68.186	61.512	59.081	47.916	32.136	42.024
164.5	92.576	88.704	79.392	67.074	60.894	58.586	45.814	31.230	41.241
165.0	90.970	87.138	78.198	66.208	60.317	57.804	43.878	30.776	40.005
165.5	89.239	85.737	76.962	65.220	59.781	56.897	41.818	30.570	38.357
166.0	87.756	84.213	75.684	64.437	59.081	55.455	39.346	30.406	36.462
166.5	85.984	82.606	74.242	63.572	58.298	53.478	37.286	29.994	33.784

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

**CANDELA TABULATION - (Cont.)**

<b>167.0</b>	84.172	81.082	73.089	62.748	57.062	51.376	35.638	29.788	30.612
<b>167.5</b>	82.565	79.557	71.894	61.718	55.290	48.863	33.990	28.922	27.851
<b>168.0</b>	80.711	77.744	70.246	60.935	52.818	46.144	32.960	28.346	24.555
<b>168.5</b>	79.022	76.138	69.010	59.946	50.635	43.590	32.301	27.645	21.506
<b>169.0</b>	77.291	74.654	67.856	58.463	47.668	40.870	31.559	26.286	17.881
<b>169.5</b>	75.478	73.089	66.332	56.650	45.032	38.234	31.271	24.802	14.008
<b>170.0</b>	73.583	71.400	64.808	54.219	42.065	36.215	30.694	22.660	10.424
<b>170.5</b>	71.770	69.257	63.201	51.706	39.552	34.896	29.870	20.023	7.540
<b>171.0</b>	69.916	67.280	60.852	49.069	37.451	33.578	29.211	17.716	4.614
<b>171.5</b>	68.227	65.590	58.834	46.309	36.009	32.836	28.057	15.738	3.049
<b>172.0</b>	66.250	63.695	56.856	43.672	34.732	32.301	26.080	13.390	2.719
<b>172.5</b>	64.560	61.100	54.096	41.736	33.619	31.353	23.772	11.083	2.678
<b>173.0</b>	61.594	58.751	51.459	39.923	32.672	30.282	21.424	8.858	2.554
<b>173.5</b>	58.051	56.073	48.492	37.780	31.477	28.098	18.334	7.498	2.184
<b>174.0</b>	56.156	52.612	45.073	36.050	30.488	24.926	15.162	6.922	1.895
<b>174.5</b>	53.066	49.275	41.983	34.072	28.634	21.754	12.113	6.221	1.607
<b>175.0</b>	49.358	45.691	39.016	31.600	25.956	18.128	9.682	5.686	1.236
<b>175.5</b>	44.537	41.530	35.514	29.087	22.660	14.173	8.281	4.697	0.906
<b>176.0</b>	39.717	36.915	32.054	26.080	19.158	10.753	7.334	3.914	1.195
<b>176.5</b>	34.526	31.724	27.975	21.836	15.079	8.281	6.262	2.760	0.948
<b>177.0</b>	28.469	26.450	23.402	17.510	11.412	6.963	5.274	1.813	0.783
<b>177.5</b>	22.207	20.518	19.076	13.637	8.405	6.139	4.450	1.195	0.783
<b>178.0</b>	15.532	14.379	14.544	9.270	6.180	5.109	3.502	0.989	1.318
<b>178.5</b>	9.888	9.188	9.600	5.892	4.985	4.202	2.637	1.071	0.906
<b>179.0</b>	5.809	5.521	5.150	3.667	3.873	3.337	2.060	0.989	1.030
<b>179.5</b>	2.060	3.131	1.978	1.978	2.678	2.678	1.277	1.030	1.442
<b>180.0</b>	1.483	1.483	1.483	1.483	1.483	1.483	1.483	1.483	1.483



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

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	167.94	N.A.	7.40
0-30	385.66	N.A.	16.90
0-40	648.95	N.A.	28.50
0-60	1110.44	N.A.	48.70
0-80	1469.12	N.A.	64.40
0-90	1614.06	N.A.	70.80
10-90	1576.00	N.A.	69.10
20-40	481.01	N.A.	21.10
20-50	729.17	N.A.	32.00
40-70	651.66	N.A.	28.60
60-80	358.68	N.A.	15.70
70-80	168.51	N.A.	7.40
80-90	144.94	N.A.	6.40
90-110	264.98	N.A.	11.60
90-120	381.80	N.A.	16.70
90-130	479.44	N.A.	21.00
90-150	611.18	N.A.	26.80
90-180	666.93	N.A.	29.20
110-180	401.95	N.A.	17.60
0-180	2280.99	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	38.05
10-20	129.89
20-30	217.72
30-40	263.29
40-50	248.16
50-60	213.32
60-70	190.17
70-80	168.51
80-90	144.94
90-100	135.05
100-110	129.93
110-120	116.82
120-130	97.64
130-140	76.52
140-150	55.22
150-160	35.36
160-170	17.37
170-180	3.02

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

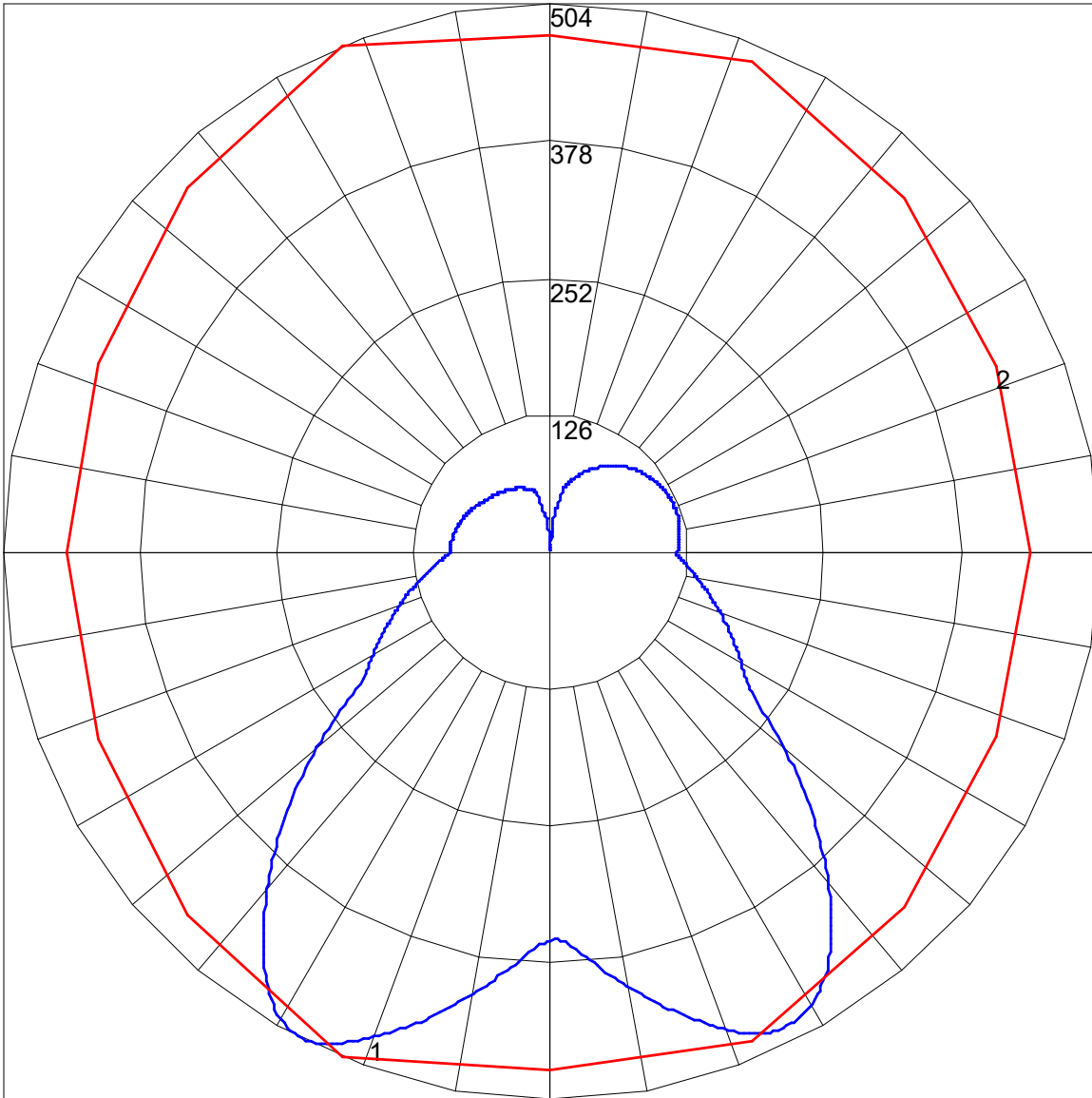
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FSN WEVE 4 LIGHT.IES**

**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	13.1	14.3	13.9	15.1	16.0	11.4	12.5	12.1	13.3	14.2
	3H	15.4	16.5	16.2	17.3	18.2	13.2	14.2	13.9	15.0	16.0
	4H	16.5	17.5	17.3	18.3	19.3	14.0	15.0	14.8	15.8	16.7
	6H	17.6	18.5	18.4	19.3	20.3	14.7	15.6	15.5	16.4	17.4
	8H	18.1	19.0	18.9	19.8	20.8	15.0	15.9	15.8	16.7	17.7
	12H	18.6	19.5	19.4	20.3	21.3	15.3	16.2	16.1	17.0	18.0
4H	2H	13.8	14.8	14.6	15.6	16.6	12.3	13.3	13.1	14.1	15.1
	3H	16.3	17.2	17.1	18.0	19.0	14.4	15.2	15.2	16.1	17.1
	4H	17.6	18.4	18.4	19.2	20.2	15.3	16.1	16.1	16.9	17.9
	6H	18.9	19.6	19.7	20.4	21.4	16.2	16.9	17.0	17.7	18.8
	8H	19.5	20.1	20.3	21.0	22.0	16.6	17.2	17.4	18.1	19.1
	12H	20.1	20.7	20.9	21.5	22.6	17.0	17.6	17.8	18.4	19.5
8H	4H	18.0	18.7	18.9	19.5	20.6	16.0	16.7	16.9	17.5	18.6
	6H	19.5	20.1	20.4	21.0	22.0	17.1	17.7	18.0	18.6	19.6
	8H	20.3	20.8	21.1	21.7	22.7	17.6	18.1	18.5	19.0	20.1
	12H	21.1	21.5	21.9	22.4	23.5	18.1	18.6	19.0	19.5	20.6
12H	4H	18.1	18.7	19.0	19.6	20.6	16.2	16.8	17.1	17.7	18.7
	6H	19.7	20.2	20.5	21.0	22.1	17.4	17.9	18.3	18.8	19.9
	8H	20.5	21.0	21.4	21.8	22.9	18.0	18.5	18.9	19.3	20.4

Maximum UGR = 23.5

POLAR GRAPH



Maximum Candela = 503.711 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.)