



# The Perfect Lighting Choice.™

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## IES INDOOR REPORT PHOTOMETRIC FILENAME : FAL 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] LumenAria Faux Alabaster (FAL) 4-Light Bath Bar  
 [LUMINAIRE] Justice Design Group - Wall mount bathroom luminaire. Product ID: FAL 4-Light  
 [MORE] Steel formed housing and four frosted resin 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	1849
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	62
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	2474	2817	6212
55	2086	2228	4489
65	1866	1937	3829
75	1732	1758	4005
85	1668	1672	4827

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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>	289.778	289.778	289.778	289.778	289.778	289.778	289.778	289.778	289.778
<b>0.5</b>	286.973	287.808	288.910	289.044	289.979	291.148	292.050	292.116	292.150
<b>1.0</b>	287.708	288.676	289.144	289.344	290.346	292.217	293.653	294.221	294.655
<b>1.5</b>	290.012	290.580	290.580	290.079	291.315	293.753	295.857	297.193	297.728
<b>2.0</b>	292.584	292.818	292.651	291.215	292.450	295.423	298.429	300.500	301.168
<b>2.5</b>	295.724	295.924	295.056	292.918	293.887	297.427	301.335	304.140	304.909
<b>3.0</b>	299.464	298.830	297.728	294.922	295.356	299.498	304.608	307.748	308.783
<b>3.5</b>	303.239	302.337	300.700	296.959	297.060	301.635	307.647	311.522	313.158
<b>4.0</b>	307.146	306.211	303.472	299.231	298.763	304.140	311.021	315.363	316.966
<b>4.5</b>	311.088	309.718	306.679	301.368	300.600	306.645	314.294	319.371	321.241
<b>5.0</b>	314.795	313.726	309.785	303.673	302.337	309.117	317.367	323.045	325.283
<b>5.5</b>	318.536	317.233	312.891	306.245	304.241	311.589	320.740	327.120	329.291
<b>6.0</b>	322.844	321.108	316.064	308.716	306.144	314.261	324.281	331.161	333.967
<b>6.5</b>	326.719	324.848	319.471	311.121	307.915	316.799	327.587	335.069	337.674
<b>7.0</b>	330.593	328.456	322.677	313.693	309.952	319.371	331.128	339.144	341.949
<b>7.5</b>	334.434	332.497	325.951	316.231	311.956	322.043	334.668	343.118	346.091
<b>8.0</b>	338.075	336.204	329.324	318.669	313.960	324.681	338.008	346.993	350.065
<b>8.5</b>	341.816	340.045	332.564	321.241	315.797	327.353	341.515	350.867	354.040
<b>9.0</b>	346.024	343.619	335.870	323.813	317.935	329.992	345.122	354.608	358.015
<b>9.5</b>	349.965	347.327	339.244	326.318	320.106	332.697	348.228	358.248	361.989
<b>10.0</b>	353.739	351.201	342.450	328.923	321.976	335.202	351.568	362.290	365.897
<b>10.5</b>	357.480	355.276	345.824	331.629	323.980	337.908	355.042	365.997	369.838
<b>11.0</b>	361.755	358.783	349.063	334.200	325.984	340.580	358.248	369.705	373.746
<b>11.5</b>	365.763	362.524	352.236	337.006	328.021	343.252	361.622	373.278	377.387
<b>12.0</b>	369.471	366.365	355.610	339.578	330.059	345.924	364.895	377.119	381.161
<b>12.5</b>	372.510	369.805	359.117	342.083	332.029	348.696	368.101	380.459	384.868
<b>13.0</b>	374.648	373.178	362.223	344.688	333.933	351.268	371.341	384.133	388.175
<b>13.5</b>	375.984	375.850	365.663	347.226	336.004	353.973	374.481	387.507	390.947
<b>14.0</b>	376.418	377.554	368.736	349.564	338.008	356.478	377.554	390.580	392.784
<b>14.5</b>	377.453	378.956	371.976	352.203	339.778	359.050	380.593	393.085	393.786
<b>15.0</b>	378.222	379.858	375.015	354.741	341.983	361.588	383.799	394.888	394.220
<b>15.5</b>	378.990	380.560	377.921	357.313	343.987	363.993	386.705	395.590	394.087
<b>16.0</b>	379.257	381.461	380.393	359.852	345.690	366.565	389.611	396.024	393.886
<b>16.5</b>	379.591	381.562	382.630	362.223	347.527	369.037	392.584	395.957	393.419
<b>17.0</b>	379.624	381.795	384.568	364.628	349.698	371.341	395.222	395.623	392.717
<b>17.5</b>	380.059	382.296	386.104	367.133	351.435	373.646	397.493	395.256	392.450
<b>18.0</b>	379.825	382.230	387.073	369.437	353.272	376.117	399.531	394.621	391.548
<b>18.5</b>	380.059	382.196	387.908	371.775	355.209	378.355	400.800	394.020	390.646
<b>19.0</b>	379.992	382.363	388.275	374.113	357.079	380.727	401.501	393.352	389.778
<b>19.5</b>	379.491	381.862	388.542	376.485	358.950	382.898	401.769	392.617	388.776
<b>20.0</b>	378.856	381.729	388.642	378.589	360.720	385.269	401.635	391.615	387.974
<b>20.5</b>	378.322	381.428	388.609	380.927	362.691	387.407	401.268	390.747	386.805
<b>21.0</b>	377.086	380.593	388.475	383.031	364.494	389.644	400.733	389.745	385.703
<b>21.5</b>	376.418	379.758	388.208	385.236	366.365	391.849	400.032	388.509	384.601
<b>22.0</b>	375.750	379.123	387.774	387.240	368.235	393.853	399.297	387.373	383.165
<b>22.5</b>	374.648	378.021	387.340	389.143	370.139	395.990	398.562	385.970	381.461
<b>23.0</b>	373.579	376.719	386.872	390.813	371.909	397.861	397.527	384.501	380.059
<b>23.5</b>	372.043	375.182	385.937	391.982	373.479	399.831	396.358	383.098	378.155
<b>24.0</b>	370.573	373.579	385.102	392.984	375.349	401.668	395.222	381.194	376.218
<b>24.5</b>	369.304	372.276	384.133	393.853	376.986	403.472	393.953	379.090	374.481
<b>25.0</b>	367.767	370.506	382.797	394.554	378.656	405.042	392.517	377.320	372.510
<b>25.5</b>	366.064	368.836	381.528	395.089	380.326	406.244	391.147	375.182	370.272
<b>26.0</b>	364.194	366.932	379.958	395.222	381.762	407.313	389.344	372.878	368.135
<b>26.5</b>	362.423	364.962	378.322	395.623	383.298	407.981	387.707	370.673	365.596

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**CANDELA TABULATION - (Cont.)**

27.0	359.985	362.791	376.485	395.489	384.701	408.282	385.870	368.101	363.192
27.5	358.315	360.954	374.581	395.222	386.071	408.348	383.699	365.730	360.720
28.0	355.844	358.716	372.343	394.588	387.340	408.081	381.528	363.091	358.048
28.5	353.472	356.111	370.072	393.886	388.776	407.280	379.157	360.386	355.176
29.0	351.201	353.639	367.834	392.617	390.179	406.244	376.585	357.480	352.303
29.5	348.696	351.301	365.296	391.314	391.448	404.841	373.980	354.574	349.364
30.0	346.191	348.729	362.590	389.711	392.483	403.071	371.174	351.602	346.124
30.5	343.051	346.057	359.818	387.741	393.819	401.167	368.035	348.395	342.751
31.0	340.580	343.586	356.912	386.004	394.855	399.030	364.995	345.122	339.578
31.5	337.908	340.747	354.107	383.933	396.024	396.692	361.789	341.916	336.004
32.0	334.735	337.774	351.301	381.528	397.159	393.986	358.516	338.542	332.664
32.5	331.862	334.969	347.995	379.190	397.827	391.014	355.075	334.935	328.723
33.0	328.756	331.829	344.922	376.418	398.662	387.774	351.735	331.261	325.082
33.5	325.182	328.957	341.816	373.479	399.297	384.601	348.262	327.487	320.740
34.0	322.277	325.650	338.375	370.707	399.097	380.793	344.521	323.846	317.066
34.5	319.170	322.444	335.169	367.266	398.596	377.153	340.880	319.972	313.025
35.0	315.496	319.070	331.695	363.826	396.926	373.345	336.906	316.031	308.716
35.5	312.223	315.964	328.355	360.286	394.654	369.404	333.165	312.056	304.474
36.0	308.750	312.323	324.748	356.578	391.715	365.229	329.257	307.748	300.433
36.5	305.076	308.917	321.375	352.570	388.242	361.254	325.283	303.806	295.991
37.0	301.836	305.510	317.768	348.462	383.866	356.779	321.208	299.665	291.749
37.5	298.362	301.936	313.960	344.287	378.389	352.403	317.066	295.256	287.240
38.0	294.688	298.262	310.486	340.112	372.343	347.995	312.991	290.914	282.798
38.5	291.148	294.621	306.679	335.637	366.064	343.352	308.549	286.338	278.489
39.0	287.574	291.148	303.038	331.194	359.584	338.910	304.341	281.996	274.114
39.5	284.167	287.407	299.264	326.585	353.105	334.234	299.965	277.420	269.505
40.0	281.228	283.833	295.390	322.009	346.592	329.625	295.657	272.945	265.196
40.5	277.821	280.193	291.515	317.500	340.413	324.882	291.081	268.436	260.720
41.0	274.381	276.686	287.741	312.758	334.234	320.239	286.639	263.927	256.412
41.5	271.809	273.245	283.700	308.349	328.255	315.496	282.030	259.351	252.270
42.0	269.004	269.805	279.758	303.706	322.711	310.754	277.487	254.875	248.095
42.5	266.666	266.398	275.717	299.030	316.999	305.911	272.744	250.467	244.087
43.0	264.662	263.225	271.776	294.421	311.622	301.168	268.002	246.158	239.912
43.5	262.925	260.487	267.701	289.578	306.579	296.191	263.359	242.016	236.439
44.0	261.489	257.714	263.760	284.835	301.535	291.181	258.416	237.641	233.065
44.5	259.351	255.577	259.785	280.360	296.659	286.271	253.640	233.800	229.892
45.0	257.581	253.506	255.710	275.316	291.782	281.061	248.797	230.093	227.320
45.5	255.911	251.535	251.970	270.674	287.240	276.118	244.221	226.719	224.782
46.0	254.074	249.899	248.062	265.931	282.430	270.841	239.478	223.580	222.377
46.5	252.137	248.028	244.254	261.188	277.921	265.563	234.769	220.841	219.839
47.0	250.166	246.058	240.714	256.178	273.078	260.320	229.892	218.302	217.267
47.5	248.429	244.321	237.040	251.368	268.169	254.909	225.450	215.764	214.695
48.0	246.659	242.551	233.900	246.559	263.259	249.531	221.008	213.359	212.023
48.5	244.722	240.513	230.827	241.482	258.182	243.987	216.566	210.821	209.785
49.0	243.152	238.710	228.189	236.739	253.005	238.710	212.491	208.383	207.381
49.5	241.348	236.839	225.483	231.729	247.694	233.199	208.550	205.878	204.876
50.0	239.578	235.069	223.112	226.886	242.284	227.955	205.076	203.573	202.638
50.5	237.808	233.165	220.674	222.244	236.606	222.511	201.803	201.068	200.300
51.0	236.205	231.462	218.603	217.701	230.928	217.033	198.830	198.797	197.828
51.5	234.735	229.525	216.733	212.624	225.216	211.723	196.192	196.359	195.724
52.0	232.798	227.955	215.063	208.182	219.171	206.445	193.687	194.254	193.553
52.5	231.462	226.218	213.192	203.707	212.992	201.235	191.549	191.950	191.349
53.0	229.792	224.415	211.422	199.097	207.147	196.091	189.144	189.578	189.178
53.5	228.389	222.778	209.585	195.123	201.101	191.215	186.906	187.842	186.973
54.0	226.953	221.308	207.882	191.015	195.190	186.372	184.769	185.437	185.003
54.5	225.049	219.572	206.078	187.274	189.578	181.930	182.598	183.399	183.199

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**CANDELA TABULATION - (Cont.)**

55.0	223.546	218.236	204.341	183.900	183.867	177.421	180.460	181.262	181.061
55.5	222.544	216.733	202.571	181.095	178.490	173.212	178.323	179.325	179.291
56.0	221.175	215.196	200.934	178.222	173.079	169.672	176.185	177.354	177.287
56.5	219.805	213.660	199.097	175.918	168.035	166.299	174.114	175.450	175.350
57.0	218.636	212.424	197.461	173.446	163.326	163.727	172.177	173.480	173.546
57.5	217.234	210.754	195.824	171.108	158.650	161.689	170.173	171.576	171.743
58.0	216.131	209.418	194.087	169.405	154.308	160.019	168.035	169.772	169.906
58.5	214.595	208.182	192.618	168.102	150.500	158.249	166.132	167.902	167.969
59.0	213.560	206.779	191.081	166.532	147.261	156.613	164.261	165.998	166.265
59.5	212.257	205.443	189.478	165.163	144.589	155.009	162.257	164.361	164.729
60.0	210.854	204.208	188.009	163.727	142.585	153.339	160.520	162.558	162.792
60.5	209.618	202.938	186.572	162.257	140.915	151.569	158.650	160.687	161.289
61.0	208.516	201.636	185.069	160.721	139.545	149.832	156.746	159.051	159.351
61.5	207.614	200.500	183.366	159.351	138.309	148.196	155.076	157.314	157.915
62.0	206.278	199.164	182.097	157.648	137.140	146.593	153.239	155.644	156.078
62.5	205.043	197.895	180.661	156.279	135.771	144.856	151.603	154.007	154.341
63.0	203.974	196.659	179.158	154.776	134.468	143.186	149.933	152.137	152.905
63.5	202.571	195.423	177.822	153.306	133.132	141.516	148.229	150.701	151.135
64.0	201.469	194.355	176.586	151.903	131.763	140.013	146.459	149.098	149.632
64.5	200.667	193.152	175.116	150.333	130.360	138.309	144.923	147.561	147.995
65.0	199.532	191.950	174.014	148.931	129.024	136.773	143.286	145.891	146.459
65.5	198.262	190.781	172.511	147.595	127.621	135.003	141.482	144.522	144.889
66.0	197.160	189.745	171.309	146.125	126.252	133.500	139.979	142.919	143.386
66.5	196.192	188.476	169.973	144.589	124.916	131.963	138.309	141.349	141.983
67.0	195.156	187.508	168.670	143.453	123.313	130.293	136.606	139.779	140.414
67.5	193.920	186.339	167.334	142.050	122.077	128.657	135.237	138.309	138.877
68.0	192.852	185.136	166.165	140.447	120.774	127.354	133.734	136.773	137.508
68.5	191.916	184.034	164.963	139.211	119.305	125.617	132.164	135.437	136.205
69.0	190.948	183.065	163.660	137.842	117.869	124.281	130.794	133.934	134.468
69.5	189.879	181.930	162.491	136.372	116.533	122.845	129.258	132.498	133.132
70.0	188.944	180.961	161.188	135.170	115.096	121.209	127.889	131.095	131.863
70.5	187.708	179.826	159.886	133.867	113.694	119.772	126.419	129.759	130.126
71.0	186.639	178.757	158.951	132.364	112.324	118.336	124.949	128.223	128.957
71.5	185.804	177.922	157.782	131.195	110.988	116.900	123.513	126.920	127.588
72.0	184.836	176.820	156.546	129.826	109.686	115.364	122.177	125.484	126.252
72.5	183.934	175.784	155.510	128.423	108.316	114.028	120.774	124.215	124.849
73.0	182.832	174.782	154.375	127.321	106.980	112.591	119.472	122.778	123.547
73.5	181.796	173.847	153.206	125.951	105.644	111.155	118.036	121.543	122.177
74.0	181.095	172.745	152.137	124.615	104.375	109.786	116.766	120.207	120.941
74.5	180.327	171.709	150.935	123.513	102.939	108.383	115.430	118.904	119.572
75.0	179.224	170.874	149.899	122.344	101.770	107.147	114.195	117.702	118.203
75.5	178.122	169.839	148.964	121.008	100.501	105.878	112.859	116.265	116.967
76.0	177.220	168.904	147.929	119.873	99.131	104.442	111.523	115.030	115.631
76.5	176.152	167.969	146.760	118.737	97.829	103.273	110.253	113.760	114.462
77.0	175.083	166.967	145.925	117.535	96.693	102.004	108.917	112.591	113.259
77.5	174.548	166.165	144.822	116.299	95.357	100.601	107.715	111.255	112.157
78.0	173.546	165.163	143.653	115.230	94.255	99.465	106.513	110.020	110.821
78.5	172.411	164.161	142.818	113.894	92.952	98.229	105.310	108.817	109.652
79.0	171.810	163.226	141.816	112.925	91.750	96.893	104.041	107.648	108.216
79.5	170.641	162.324	140.681	111.923	90.547	95.658	102.839	106.379	107.114
80.0	170.106	161.389	139.846	110.621	89.412	94.455	101.636	105.210	105.945
80.5	169.138	160.587	138.777	109.619	88.343	93.286	100.367	104.141	104.909
81.0	168.169	159.719	137.808	108.550	87.174	92.084	99.365	102.905	103.540
81.5	167.534	158.683	136.940	107.481	86.205	91.082	98.229	101.803	102.438
82.0	166.432	157.815	135.905	106.546	85.103	89.879	96.960	100.801	101.402
82.5	165.697	157.114	134.869	105.577	83.968	88.644	95.891	99.666	100.300

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**PHOTOMETRIC FILENAME : FAL 4 LIGHT.IES**

**CANDELA TABULATION - (Cont.)**

83.0	164.595	156.078	134.068	104.475	82.865	87.642	94.823	98.530	99.131
83.5	163.794	155.343	133.166	103.473	81.863	86.606	93.687	97.361	97.962
84.0	163.092	154.542	132.164	102.638	80.828	85.471	92.685	96.392	96.860
84.5	162.224	153.573	131.429	101.569	79.859	84.402	91.549	95.190	95.724
85.0	161.522	152.705	130.561	100.701	78.958	83.333	90.581	94.221	94.923
85.5	160.754	151.903	129.592	99.799	77.889	82.197	89.646	93.153	93.754
86.0	159.953	151.068	128.757	98.831	77.020	81.296	88.443	91.883	92.919
86.5	159.118	150.400	128.089	97.996	76.052	80.260	87.441	90.948	91.549
87.0	158.216	149.565	127.120	97.361	75.183	79.292	86.539	90.080	90.614
87.5	157.481	148.697	126.419	96.359	74.515	78.390	85.537	88.978	89.746
88.0	156.780	148.196	125.718	95.724	73.513	77.488	84.669	88.076	88.644
88.5	156.011	147.428	124.949	95.023	72.912	76.586	83.734	87.174	87.675
89.0	155.878	146.993	124.382	94.255	72.211	75.952	82.832	86.139	86.573
89.5	155.945	146.960	124.382	94.188	71.710	75.284	81.997	85.304	85.738
90.0	155.644	147.160	124.615	94.322	71.977	75.117	81.663	84.803	85.170
90.5	156.145	147.361	124.649	94.422	71.977	75.183	81.463	84.535	85.003
91.0	156.579	147.494	124.849	94.622	71.910	75.183	81.296	84.402	84.836
91.5	156.713	147.895	125.016	94.823	72.144	75.217	81.262	84.335	84.535
92.0	156.980	147.862	125.350	94.756	72.177	75.217	81.095	84.068	84.435
92.5	157.180	148.129	125.484	95.023	72.378	75.117	80.962	83.801	84.201
93.0	157.448	148.363	125.484	95.257	72.311	74.916	80.962	83.700	84.068
93.5	157.848	148.530	125.951	95.357	72.645	74.950	80.962	83.567	83.834
94.0	158.015	148.864	126.085	95.624	72.578	74.883	80.661	83.433	83.567
94.5	158.249	148.964	126.285	95.691	72.745	74.716	80.761	83.199	83.166
95.0	158.750	149.198	126.419	95.858	72.745	74.716	80.527	82.732	82.932
95.5	158.683	149.565	126.586	96.058	72.845	74.682	80.360	82.598	82.832
96.0	159.084	149.732	126.820	96.192	72.912	74.616	80.193	82.431	82.398
96.5	159.285	149.899	127.221	96.292	73.113	74.515	79.993	82.064	82.197
97.0	159.518	150.133	127.154	96.526	73.079	74.449	79.893	81.830	81.763
97.5	159.685	150.333	127.354	96.793	73.113	74.282	79.793	81.763	81.596
98.0	160.053	150.367	127.588	96.760	73.380	74.348	79.492	81.429	81.329
98.5	160.086	150.667	127.755	97.060	73.413	74.148	79.392	81.195	80.995
99.0	160.287	150.868	127.755	97.328	73.513	73.948	79.325	80.928	80.728
99.5	160.520	150.935	127.989	97.227	73.580	73.948	78.958	80.661	80.260
100.0	160.587	151.102	128.089	97.428	73.747	73.814	78.891	80.427	80.060
100.5	160.854	151.135	128.122	97.595	73.781	73.714	78.791	80.093	79.726
101.0	160.821	151.235	128.256	97.795	73.948	73.580	78.590	79.726	79.392
101.5	161.188	151.302	128.390	97.862	74.014	73.346	78.356	79.525	78.924
102.0	161.055	151.402	128.356	98.029	74.282	73.280	78.123	79.158	78.791
102.5	161.155	151.402	128.390	98.062	74.282	73.179	77.822	78.824	78.457
103.0	161.188	151.502	128.456	98.196	74.482	72.912	77.555	78.557	78.156
103.5	161.188	151.536	128.390	98.396	74.415	72.812	77.354	78.356	77.555
104.0	161.456	151.569	128.256	98.196	74.482	72.645	77.054	78.022	77.421
104.5	161.522	151.703	128.289	98.396	74.549	72.445	76.653	77.622	76.887
105.0	161.222	151.736	128.223	98.497	74.749	72.244	76.286	77.388	76.519
105.5	161.389	151.536	128.189	98.296	74.816	72.077	75.918	76.954	76.085
106.0	161.522	151.569	128.289	98.363	74.716	71.944	75.551	76.486	75.818
106.5	161.456	151.636	128.223	98.363	74.816	71.777	75.217	76.152	75.384
107.0	161.556	151.636	128.122	98.330	74.716	71.643	74.816	75.651	75.050
107.5	161.456	151.536	128.089	98.296	74.716	71.443	74.482	75.250	74.482
108.0	161.456	151.502	128.022	98.463	74.816	71.042	74.115	74.582	73.914
108.5	161.522	151.469	128.089	98.296	74.682	70.975	73.781	74.181	73.313
109.0	161.222	151.436	127.922	98.296	74.749	70.608	73.413	73.614	72.946
109.5	161.322	151.202	127.755	98.163	74.582	70.507	73.046	73.179	72.111
110.0	161.155	151.235	127.655	98.163	74.682	70.340	72.678	72.511	71.843
110.5	161.188	150.968	127.655	98.129	74.549	70.140	72.211	72.177	71.008

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

111.0	160.988	151.001	127.521	98.229	74.582	69.940	71.910	71.610	70.407
111.5	160.888	150.901	127.521	98.096	74.415	69.773	71.376	71.142	70.107
112.0	160.487	150.834	127.388	98.062	74.382	69.439	71.042	70.541	69.372
112.5	160.587	150.701	127.120	97.962	74.449	69.338	70.741	70.073	68.704
113.0	160.520	150.500	127.120	97.862	74.415	69.038	70.374	69.572	68.103
113.5	160.320	150.333	126.953	97.728	74.315	68.904	69.839	68.871	67.635
114.0	160.053	150.233	126.720	97.728	74.282	68.737	69.505	68.503	67.101
114.5	160.120	150.033	126.619	97.561	74.248	68.403	69.171	67.735	66.433
115.0	159.719	149.799	126.319	97.428	74.081	68.203	68.470	67.000	65.664
115.5	159.585	149.832	126.185	97.328	74.115	67.936	68.303	66.332	65.063
116.0	159.251	149.365	125.918	97.094	73.847	67.902	67.735	65.431	64.362
116.5	159.285	149.231	125.751	97.060	73.948	67.501	67.167	64.729	63.660
117.0	158.850	148.997	125.484	96.893	73.781	67.368	66.934	64.095	62.458
117.5	158.483	148.663	125.384	96.726	73.614	67.134	66.566	63.193	61.823
118.0	158.283	148.430	124.983	96.459	73.480	66.833	66.032	62.525	60.755
118.5	157.982	148.296	124.782	96.326	73.280	66.600	65.564	61.790	59.986
119.0	157.581	147.862	124.549	96.259	73.179	66.399	65.297	61.022	59.051
119.5	157.247	147.661	124.315	96.092	73.179	66.199	64.696	60.153	58.049
120.0	156.947	147.461	124.114	95.825	72.946	65.965	64.429	59.252	57.147
120.5	156.713	146.927	123.847	95.491	72.779	65.631	63.928	58.450	56.279
121.0	156.379	146.693	123.446	95.491	72.511	65.397	63.393	57.715	55.377
121.5	155.778	146.459	123.112	95.324	72.511	65.063	63.159	56.980	54.442
122.0	155.510	145.958	122.879	94.923	72.411	64.796	62.692	56.145	53.473
122.5	155.043	145.624	122.645	94.689	72.144	64.696	62.258	55.444	52.672
123.0	154.675	145.323	122.211	94.589	71.977	64.295	61.890	54.676	51.770
123.5	154.174	144.689	121.843	94.155	71.843	64.095	61.523	54.008	50.668
124.0	154.108	144.221	121.609	94.021	71.777	63.894	60.922	53.206	49.933
124.5	153.273	143.887	121.242	93.787	71.509	63.560	60.621	52.538	49.131
125.0	152.705	143.353	120.908	93.520	71.276	63.493	60.320	51.803	48.296
125.5	152.137	142.919	120.407	93.153	71.109	63.193	59.953	51.169	47.662
126.0	151.469	142.317	120.040	92.952	71.042	63.059	59.719	50.601	46.960
126.5	151.202	141.750	119.605	92.618	70.875	62.892	59.285	49.933	46.259
127.0	150.200	141.315	119.238	92.451	70.775	62.725	58.784	49.399	45.558
127.5	149.532	140.647	118.737	92.151	70.641	62.458	58.517	48.931	45.023
128.0	149.064	140.046	118.303	91.783	70.407	62.391	58.216	48.196	44.422
128.5	148.329	139.378	117.835	91.583	70.407	62.324	57.782	47.595	43.854
129.0	147.595	139.011	117.434	91.215	70.107	62.024	57.448	46.927	43.286
129.5	147.094	138.276	116.867	90.982	69.973	61.823	57.214	46.359	42.919
130.0	146.125	137.808	116.399	90.514	69.839	61.456	56.613	45.825	42.385
130.5	145.557	137.140	115.865	90.280	69.839	61.356	56.379	45.324	41.683
131.0	144.889	136.472	115.364	90.080	69.505	61.155	56.045	44.856	41.383
131.5	144.321	135.905	114.929	89.646	69.372	61.022	55.644	44.222	41.082
132.0	143.353	135.237	114.295	89.545	69.272	60.888	55.310	43.754	40.514
132.5	142.484	134.368	113.827	89.044	69.071	60.688	55.077	43.253	40.013
133.0	141.883	133.734	113.293	88.644	68.771	60.487	54.676	42.819	39.913
133.5	140.981	133.066	112.725	88.376	68.737	60.320	54.375	42.485	39.412
134.0	140.247	132.264	112.191	87.976	68.437	60.254	54.008	42.017	39.245
134.5	139.545	131.529	111.623	87.541	68.403	60.053	53.774	41.516	38.811
135.0	138.710	130.828	110.921	87.141	68.136	59.786	53.440	41.216	38.477
135.5	137.909	129.926	110.487	86.807	67.936	59.819	53.106	40.848	38.143
136.0	137.007	129.458	109.819	86.406	67.702	59.452	52.705	40.247	37.709
136.5	136.172	128.690	109.251	86.139	67.535	59.285	52.338	39.980	37.274
137.0	135.237	127.788	108.650	85.638	67.368	59.085	52.204	39.579	36.807
137.5	134.301	127.020	108.049	85.270	67.034	58.918	51.703	39.111	36.640
138.0	133.299	126.219	107.414	84.936	66.967	58.617	51.536	38.911	36.540
138.5	132.531	125.350	106.880	84.502	66.767	58.617	51.403	38.577	36.105

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

139.0	131.529	124.649	106.179	84.001	66.399	58.517	50.935	38.109	35.838
139.5	130.661	123.747	105.511	83.600	66.232	58.283	50.701	37.842	35.504
140.0	129.993	122.945	104.609	83.266	66.132	58.216	50.467	37.475	35.170
140.5	129.058	121.977	104.141	82.632	65.731	57.916	50.033	37.208	34.870
141.0	128.122	121.342	103.406	82.398	65.598	57.682	49.900	36.740	34.469
141.5	127.321	120.273	102.805	81.863	65.330	57.648	49.566	36.406	34.135
142.0	126.352	119.472	102.037	81.329	64.996	57.448	49.298	36.005	33.734
142.5	125.183	118.637	101.402	80.928	64.796	57.214	49.131	35.838	33.333
143.0	124.248	117.668	100.668	80.394	64.562	57.147	48.898	35.304	33.233
143.5	123.246	116.700	99.866	79.859	64.295	56.847	48.497	35.003	32.932
144.0	122.311	115.798	99.165	79.459	63.928	56.613	48.430	34.736	32.732
144.5	121.309	114.863	98.463	79.024	63.694	56.680	48.363	34.536	32.498
145.0	120.240	114.061	97.829	78.356	63.393	56.413	47.996	34.101	32.331
145.5	119.271	113.126	97.094	77.989	63.193	56.179	47.762	33.934	32.298
146.0	118.169	112.124	96.292	77.488	62.859	55.912	47.662	33.701	32.498
146.5	117.201	111.088	95.457	76.954	62.491	55.811	47.361	33.200	32.465
147.0	116.232	110.187	94.823	76.419	62.157	55.611	47.395	32.966	32.365
147.5	115.230	109.051	94.054	75.885	62.057	55.444	47.094	32.765	32.465
148.0	114.028	108.116	93.219	75.384	61.623	55.210	46.894	32.498	32.532
148.5	112.892	107.214	92.518	74.816	61.456	55.010	46.727	32.198	32.598
149.0	111.690	106.312	91.683	74.348	61.055	54.876	46.660	31.897	32.765
149.5	110.855	105.277	90.881	73.680	60.688	54.776	46.459	31.763	32.932
150.0	109.719	104.141	90.080	73.213	60.287	54.442	46.292	31.530	32.899
150.5	108.617	103.273	89.245	72.678	60.087	54.375	46.192	31.396	33.099
151.0	107.548	102.070	88.510	72.010	59.719	54.108	45.992	31.363	33.333
151.5	106.579	101.102	87.742	71.543	59.385	53.974	45.825	31.095	33.200
152.0	105.177	100.200	86.840	71.075	59.085	53.707	45.691	30.795	33.133
152.5	104.041	99.031	86.105	70.374	58.684	53.574	45.424	30.761	33.266
153.0	103.173	97.929	85.103	69.672	58.417	53.407	45.457	30.628	33.233
153.5	101.837	96.960	84.402	69.138	58.016	53.139	45.391	30.594	33.367
154.0	100.701	95.891	83.500	68.604	57.682	52.906	45.123	30.528	33.266
154.5	99.465	94.756	82.565	67.936	57.381	52.672	45.123	30.528	33.200
155.0	98.229	93.587	81.763	67.301	57.081	52.405	44.923	30.494	33.200
155.5	97.127	92.451	80.928	66.633	56.680	52.204	44.656	30.561	33.400
156.0	96.058	91.449	80.026	66.165	56.279	52.071	44.656	30.594	33.400
156.5	94.589	90.347	79.058	65.431	56.045	51.770	44.656	30.461	33.600
157.0	93.687	89.312	78.290	64.729	55.511	51.570	44.455	30.194	33.534
157.5	92.384	88.176	77.321	64.095	55.077	51.236	44.389	30.060	33.367
158.0	91.215	86.940	76.553	63.560	54.776	51.069	44.355	29.826	33.367
158.5	90.180	85.972	75.751	62.825	54.275	50.801	44.188	29.392	33.333
159.0	88.877	84.903	74.716	62.157	53.874	50.434	44.121	29.225	33.367
159.5	87.675	83.700	73.847	61.590	53.473	50.334	44.055	28.824	33.400
160.0	86.439	82.498	72.912	60.755	53.039	49.966	43.821	28.791	33.367
160.5	85.337	81.396	72.044	60.120	52.672	49.833	43.620	28.624	33.333
161.0	84.034	80.193	71.042	59.519	52.304	49.499	43.420	28.557	33.600
161.5	82.632	79.058	70.207	58.650	51.803	49.232	43.119	28.156	33.734
162.0	81.329	77.922	69.071	57.916	51.403	48.898	42.819	27.889	33.901
162.5	80.093	76.753	68.203	57.348	51.169	48.664	42.351	27.588	33.901
163.0	78.857	75.517	67.268	56.580	50.534	48.330	41.316	27.388	33.968
163.5	77.521	74.415	66.232	55.912	50.267	47.996	40.214	26.887	34.168
164.0	76.419	73.179	65.330	55.277	49.866	47.896	38.844	26.052	34.068
164.5	75.050	71.910	64.362	54.375	49.365	47.495	37.141	25.317	33.433
165.0	73.747	70.641	63.393	53.674	48.898	46.860	35.571	24.950	32.431
165.5	72.344	69.505	62.391	52.872	48.463	46.125	33.901	24.783	31.095
166.0	71.142	68.270	61.356	52.238	47.896	44.956	31.897	24.649	29.559
166.5	69.706	66.967	60.187	51.536	47.261	43.353	30.227	24.315	27.388

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

<b>167.0</b>	68.236	65.731	59.252	50.868	46.259	41.650	28.891	24.148	24.816
<b>167.5</b>	66.934	64.495	58.283	50.033	44.823	39.612	27.555	23.447	22.578
<b>168.0</b>	65.431	63.026	56.947	49.399	42.819	37.408	26.720	22.979	19.906
<b>168.5</b>	64.061	61.723	55.945	48.597	41.049	35.337	26.186	22.411	17.435
<b>169.0</b>	62.658	60.521	55.010	47.395	38.644	33.133	25.584	21.309	14.496
<b>169.5</b>	61.189	59.252	53.774	45.925	36.506	30.995	25.351	20.107	11.356
<b>170.0</b>	59.652	57.882	52.538	43.954	34.101	29.359	24.883	18.370	8.450
<b>170.5</b>	58.183	56.145	51.236	41.917	32.064	28.290	24.215	16.232	6.112
<b>171.0</b>	56.680	54.542	49.332	39.779	30.361	27.221	23.681	14.362	3.741
<b>171.5</b>	55.310	53.173	47.695	37.542	29.192	26.620	22.745	12.759	2.472
<b>172.0</b>	53.707	51.636	46.092	35.404	28.156	26.186	21.142	10.855	2.204
<b>172.5</b>	52.338	49.532	43.854	33.834	27.254	25.417	19.272	8.985	2.171
<b>173.0</b>	49.933	47.628	41.717	32.365	26.486	24.549	17.368	7.181	2.071
<b>173.5</b>	47.061	45.457	39.312	30.628	25.518	22.779	14.863	6.079	1.770
<b>174.0</b>	45.524	42.652	36.540	29.225	24.716	20.207	12.291	5.611	1.536
<b>174.5</b>	43.019	39.946	34.035	27.622	23.213	17.635	9.820	5.043	1.303
<b>175.0</b>	40.013	37.041	31.630	25.618	21.042	14.696	7.849	4.609	1.002
<b>175.5</b>	36.105	33.667	28.791	23.580	18.370	11.490	6.713	3.808	0.735
<b>176.0</b>	32.198	29.926	25.985	21.142	15.531	8.717	5.945	3.173	0.969
<b>176.5</b>	27.989	25.718	22.679	17.702	12.224	6.713	5.077	2.238	0.768
<b>177.0</b>	23.079	21.443	18.971	14.195	9.252	5.645	4.275	1.470	0.635
<b>177.5</b>	18.003	16.633	15.464	11.055	6.814	4.977	3.607	0.969	0.635
<b>178.0</b>	12.592	11.657	11.790	7.515	5.010	4.142	2.839	0.802	1.069
<b>178.5</b>	8.016	7.448	7.782	4.776	4.041	3.407	2.138	0.868	0.735
<b>179.0</b>	4.709	4.476	4.175	2.973	3.140	2.705	1.670	0.802	0.835
<b>179.5</b>	1.670	2.538	1.603	1.603	2.171	2.171	1.035	0.835	1.169
<b>180.0</b>	1.202	1.202	1.202	1.202	1.202	1.202	1.202	1.202	1.202



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FAL 4 LIGHT.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	136.15	N.A.	7.40
0-30	312.65	N.A.	16.90
0-40	526.09	N.A.	28.50
0-60	900.21	N.A.	48.70
0-80	1190.99	N.A.	64.40
0-90	1308.48	N.A.	70.80
10-90	1277.63	N.A.	69.10
20-40	389.94	N.A.	21.10
20-50	591.12	N.A.	32.00
40-70	528.29	N.A.	28.60
60-80	290.78	N.A.	15.70
70-80	136.61	N.A.	7.40
80-90	117.50	N.A.	6.40
90-110	214.82	N.A.	11.60
90-120	309.52	N.A.	16.70
90-130	388.67	N.A.	21.00
90-150	495.47	N.A.	26.80
90-180	540.67	N.A.	29.20
110-180	325.85	N.A.	17.60
0-180	1849.15	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	30.85
10-20	105.30
20-30	176.50
30-40	213.44
40-50	201.18
50-60	172.94
60-70	154.17
70-80	136.61
80-90	117.50
90-100	109.48
100-110	105.33
110-120	94.70
120-130	79.16
130-140	62.03
140-150	44.77
150-160	28.66
160-170	14.08
170-180	2.45

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FAL 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	64	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	60	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 : FAL 4 LIGHT.IES**

**UGR TABLE - CORRECTED**

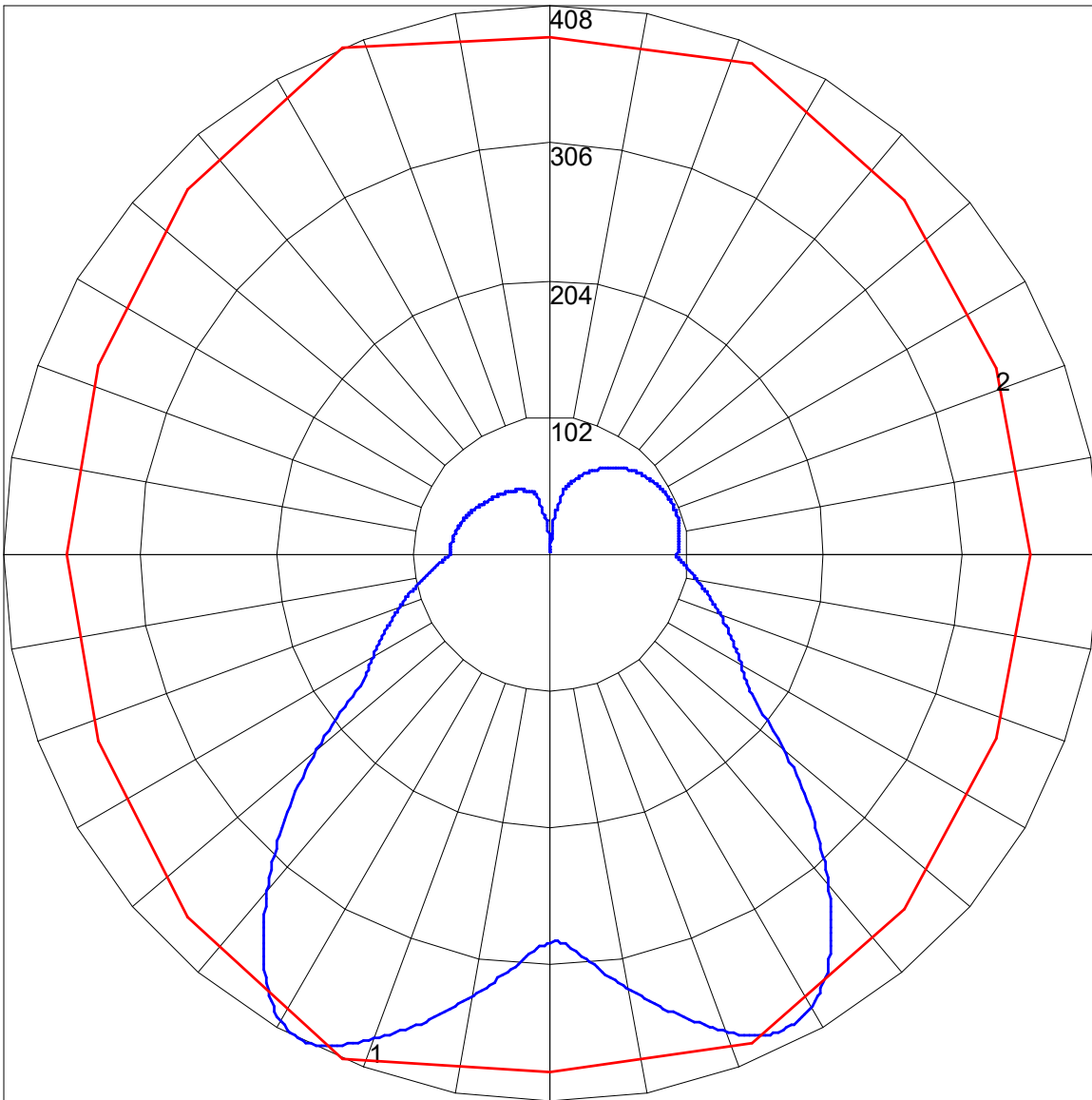
Reflectances

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	12.3	13.5	13.1	14.3	15.2	10.6	11.7	11.3	12.5	13.4
	3H	14.6	15.7	15.4	16.5	17.4	12.4	13.4	13.1	14.2	15.2
	4H	15.7	16.7	16.5	17.5	18.5	13.2	14.2	14.0	15.0	15.9
	6H	16.8	17.7	17.6	18.5	19.5	13.9	14.8	14.7	15.6	16.6
	8H	17.3	18.2	18.1	19.0	20.0	14.2	15.1	15.0	15.9	16.9
	12H	17.8	18.7	18.6	19.5	20.5	14.5	15.4	15.3	16.2	17.2
4H	2H	13.0	14.0	13.8	14.8	15.8	11.5	12.5	12.3	13.3	14.3
	3H	15.5	16.4	16.3	17.2	18.2	13.6	14.4	14.4	15.3	16.3
	4H	16.8	17.6	17.6	18.4	19.4	14.5	15.3	15.3	16.1	17.1
	6H	18.1	18.8	18.9	19.6	20.6	15.4	16.1	16.2	16.9	17.9
	8H	18.7	19.3	19.5	20.2	21.2	15.8	16.4	16.6	17.3	18.3
	12H	19.3	19.9	20.1	20.7	21.8	16.1	16.7	17.0	17.6	18.7
8H	4H	17.2	17.9	18.0	18.7	19.8	15.2	15.9	16.0	16.7	17.8
	6H	18.7	19.3	19.6	20.2	21.2	16.3	16.9	17.2	17.8	18.8
	8H	19.5	20.0	20.3	20.9	21.9	16.8	17.3	17.7	18.2	19.3
	12H	20.2	20.7	21.1	21.6	22.7	17.3	17.8	18.2	18.7	19.8
12H	4H	17.3	17.9	18.1	18.8	19.8	15.4	16.0	16.3	16.9	17.9
	6H	18.9	19.4	19.7	20.2	21.3	16.6	17.1	17.5	18.0	19.1
	8H	19.7	20.2	20.6	21.0	22.1	17.2	17.7	18.1	18.5	19.6

Maximum UGR = 22.7

POLAR GRAPH



Maximum Candela = 408.348 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.)