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IES INDOOR REPORT

PHOTOMETRIC FILENAME : FSN MROR 3 LIGHT.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] 18097-B

[TESTLAB] LightLab International (www.LightLabInternational.com)

[MANUFAC] Justice Design Group, Los Angeles, CA 90071

[LUMCAT] Artisan Glass (FSN) - Mercury Glass (MROR) 3-Light Bath Bar

[LUMINAIRE] Justice Design Group - Wall mount bathroom luminaire. Product ID: FSN MROR 3-Light

[MORE] Steel formed housing and three frosted clear glass lenses with white interior.

[MORE] 30 LEDs mounted in three 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 20, 2018

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1289
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	57
Total Luminaire Watts	22.49
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)	0.50 m
Luminous Height	0.14 m

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2299	2563	5455
55	1939	2021	3872
65	1734	1751	3223
75	1610	1585	3244
85	1550	1501	3629

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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>
0.0	201.977	201.977	201.977	201.977	201.977	201.977	201.977	201.977	201.977
0.5	200.022	200.604	201.372	201.465	202.117	202.932	203.560	203.607	203.630
1.0	200.534	201.209	201.535	201.675	202.373	203.677	204.678	205.074	205.376
1.5	202.140	202.536	202.536	202.187	203.048	204.748	206.214	207.145	207.518
2.0	203.933	204.096	203.979	202.978	203.840	205.912	208.007	209.450	209.916
2.5	206.121	206.261	205.656	204.166	204.841	207.308	210.032	211.988	212.523
3.0	208.728	208.286	207.518	205.562	205.865	208.752	212.314	214.502	215.224
3.5	211.359	210.731	209.590	206.982	207.052	210.242	214.432	217.133	218.273
4.0	214.083	213.431	211.522	208.566	208.240	211.988	216.783	219.810	220.927
4.5	216.830	215.875	213.757	210.055	209.520	213.734	219.065	222.603	223.907
5.0	219.414	218.669	215.922	211.662	210.731	215.456	221.207	225.164	226.724
5.5	222.021	221.113	218.087	213.454	212.058	217.179	223.558	228.004	229.518
6.0	225.024	223.814	220.299	215.177	213.384	219.042	226.026	230.821	232.777
6.5	227.725	226.421	222.673	216.853	214.618	220.811	228.330	233.545	235.361
7.0	230.425	228.936	224.908	218.646	216.038	222.603	230.798	236.385	238.341
7.5	233.103	231.752	227.190	220.415	217.435	224.466	233.266	239.155	241.227
8.0	235.640	234.336	229.541	222.114	218.832	226.305	235.594	241.856	243.998
8.5	238.248	237.014	231.799	223.907	220.112	228.167	238.038	244.556	246.768
9.0	241.181	239.505	234.104	225.700	221.602	230.006	240.552	247.164	249.538
9.5	243.928	242.089	236.455	227.446	223.116	231.892	242.717	249.701	252.309
10.0	246.558	244.789	238.690	229.261	224.419	233.638	245.045	252.518	255.032
10.5	249.166	247.629	241.041	231.147	225.816	235.524	247.466	255.102	257.779
11.0	252.146	250.074	243.299	232.940	227.213	237.386	249.701	257.686	260.503
11.5	254.939	252.681	245.511	234.895	228.633	239.249	252.053	260.177	263.041
12.0	257.523	255.358	247.862	236.688	230.053	241.111	254.334	262.854	265.671
12.5	259.642	257.756	250.307	238.434	231.426	243.043	256.569	265.182	268.255
13.0	261.132	260.107	252.472	240.250	232.753	244.836	258.827	267.743	270.560
13.5	262.063	261.970	254.869	242.019	234.197	246.721	261.015	270.095	272.492
14.0	262.366	263.157	257.011	243.648	235.594	248.467	263.157	272.236	273.773
14.5	263.087	264.135	259.269	245.488	236.827	250.260	265.276	273.982	274.471
15.0	263.623	264.763	261.388	247.257	238.364	252.029	267.510	275.239	274.774
15.5	264.158	265.252	263.413	249.049	239.761	253.705	269.536	275.728	274.681
16.0	264.344	265.881	265.136	250.819	240.948	255.498	271.561	276.031	274.541
16.5	264.577	265.951	266.696	252.472	242.228	257.221	273.633	275.984	274.215
17.0	264.600	266.114	268.046	254.148	243.742	258.827	275.472	275.752	273.726
17.5	264.903	266.463	269.117	255.894	244.952	260.433	277.055	275.496	273.540
18.0	264.740	266.416	269.792	257.500	246.233	262.156	278.475	275.053	272.911
18.5	264.903	266.393	270.374	259.130	247.583	263.716	279.360	274.634	272.283
19.0	264.857	266.509	270.630	260.759	248.886	265.369	279.849	274.169	271.678
19.5	264.507	266.160	270.816	262.412	250.190	266.882	280.035	273.656	270.979
20.0	264.065	266.067	270.886	263.879	251.424	268.535	279.942	272.958	270.420
20.5	263.693	265.858	270.863	265.508	252.798	270.025	279.686	272.353	269.606
21.0	262.831	265.276	270.770	266.975	254.055	271.584	279.313	271.654	268.837
21.5	262.366	264.694	270.583	268.512	255.358	273.121	278.825	270.793	268.069
22.0	261.900	264.251	270.281	269.908	256.662	274.518	278.312	270.001	267.068
22.5	261.132	263.483	269.978	271.235	257.989	276.008	277.800	269.024	265.881
23.0	260.387	262.575	269.652	272.399	259.223	277.311	277.079	267.999	264.903
23.5	259.316	261.504	269.000	273.214	260.317	278.685	276.264	267.022	263.576
24.0	258.292	260.387	268.418	273.912	261.621	279.965	275.472	265.695	262.226
24.5	257.407	259.479	267.743	274.518	262.761	281.222	274.588	264.228	261.015
25.0	256.336	258.245	266.812	275.007	263.925	282.317	273.587	262.994	259.642
25.5	255.149	257.081	265.927	275.379	265.089	283.155	272.632	261.504	258.082
26.0	253.845	255.754	264.833	275.472	266.090	283.900	271.375	259.898	256.592
26.5	252.611	254.381	263.693	275.752	267.161	284.365	270.234	258.361	254.823

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CANDELA TABULATION - (Cont.)

27.0	250.912	252.867	262.412	275.658	268.139	284.575	268.954	256.569	253.147
27.5	249.748	251.587	261.085	275.472	269.094	284.621	267.441	254.916	251.424
28.0	248.025	250.027	259.525	275.030	269.978	284.435	265.927	253.077	249.562
28.5	246.372	248.211	257.942	274.541	270.979	283.876	264.275	251.191	247.560
29.0	244.789	246.489	256.383	273.656	271.957	283.155	262.482	249.166	245.557
29.5	243.043	244.859	254.613	272.748	272.842	282.177	260.666	247.140	243.509
30.0	241.297	243.066	252.728	271.631	273.563	280.943	258.711	245.069	241.251
30.5	239.109	241.204	250.795	270.258	274.494	279.616	256.522	242.834	238.899
31.0	237.386	239.481	248.770	269.047	275.216	278.126	254.404	240.552	236.688
31.5	235.524	237.503	246.815	267.604	276.031	276.497	252.169	238.317	234.197
32.0	233.312	235.431	244.859	265.927	276.822	274.611	249.888	235.966	231.869
32.5	231.310	233.475	242.554	264.298	277.288	272.539	247.490	233.452	229.122
33.0	229.145	231.287	240.413	262.366	277.870	270.281	245.162	230.891	226.584
33.5	226.654	229.285	238.248	260.317	278.312	268.069	242.741	228.260	223.558
34.0	224.629	226.980	235.850	258.385	278.173	265.415	240.133	225.723	220.997
34.5	222.464	224.745	233.615	255.987	277.824	262.878	237.596	223.022	218.180
35.0	219.903	222.394	231.194	253.589	276.660	260.224	234.825	220.275	215.177
35.5	217.621	220.229	228.866	251.121	275.076	257.477	232.218	217.505	212.220
36.0	215.200	217.691	226.351	248.537	273.028	254.567	229.494	214.502	209.404
36.5	212.640	215.317	224.000	245.744	270.607	251.796	226.724	211.755	206.307
37.0	210.381	212.942	221.486	242.880	267.557	248.677	223.884	208.868	203.351
37.5	207.960	210.451	218.832	239.970	263.739	245.627	220.997	205.795	200.208
38.0	205.399	207.890	216.411	237.060	259.525	242.554	218.157	202.769	197.112
38.5	202.932	205.353	213.757	233.941	255.149	239.318	215.061	199.579	194.109
39.0	200.441	202.932	211.219	230.844	250.632	236.222	212.127	196.553	191.059
39.5	198.066	200.324	208.589	227.632	246.116	232.963	209.078	193.364	187.846
40.0	196.018	197.833	205.888	224.442	241.577	229.750	206.075	190.244	184.843
40.5	193.643	195.296	203.188	221.300	237.270	226.445	202.885	187.101	181.724
41.0	191.245	192.852	200.557	217.994	232.963	223.209	199.789	183.959	178.721
41.5	189.453	190.454	197.740	214.921	228.796	219.903	196.576	180.769	175.834
42.0	187.497	188.056	194.993	211.685	224.931	216.597	193.410	177.650	172.924
42.5	185.868	185.681	192.176	208.426	220.950	213.222	190.104	174.577	170.130
43.0	184.471	183.470	189.429	205.213	217.202	209.916	186.799	171.574	167.220
43.5	183.260	181.561	186.589	201.838	213.687	206.447	183.563	168.687	164.799
44.0	182.259	179.628	183.842	198.532	210.172	202.955	180.117	165.637	162.448
44.5	180.769	178.139	181.072	195.412	206.773	199.533	176.788	162.960	160.236
45.0	179.535	176.695	178.232	191.897	203.374	195.901	173.413	160.376	158.444
45.5	178.371	175.322	175.624	188.661	200.208	192.456	170.223	158.025	156.674
46.0	177.091	174.181	172.901	185.355	196.856	188.778	166.918	155.836	154.998
46.5	175.741	172.877	170.247	182.050	193.713	185.099	163.635	153.927	153.229
47.0	174.367	171.504	167.779	178.558	190.337	181.444	160.236	152.158	151.436
47.5	173.157	170.293	165.218	175.205	186.915	177.673	157.140	150.389	149.644
48.0	171.923	169.059	163.030	171.853	183.493	173.925	154.044	148.713	147.781
48.5	170.573	167.639	160.888	168.314	179.954	170.060	150.948	146.943	146.222
49.0	169.478	166.382	159.049	165.009	176.346	166.382	148.107	145.244	144.546
49.5	168.221	165.078	157.163	161.517	172.644	162.541	145.360	143.498	142.800
50.0	166.987	163.845	155.510	158.141	168.873	158.886	142.939	141.892	141.240
50.5	165.754	162.518	153.811	154.905	164.916	155.091	140.658	140.146	139.610
51.0	164.636	161.330	152.368	151.739	160.958	151.273	138.586	138.563	137.887
51.5	163.612	159.980	151.064	148.200	156.977	147.572	136.747	136.863	136.421
52.0	162.262	158.886	149.900	145.104	152.763	143.894	135.001	135.396	134.908
52.5	161.330	157.675	148.596	141.985	148.457	140.262	133.511	133.790	133.371
53.0	160.166	156.418	147.362	138.772	144.383	136.677	131.835	132.137	131.858
53.5	159.189	155.278	146.082	136.002	140.169	133.278	130.275	130.927	130.321
54.0	158.188	154.253	144.895	133.138	136.048	129.902	128.785	129.251	128.948
54.5	156.861	153.043	143.638	130.531	132.137	126.806	127.272	127.830	127.691

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CANDELA TABULATION - (Cont.)

55.0	155.813	152.112	142.427	128.180	128.156	123.663	125.782	126.341	126.201
55.5	155.115	151.064	141.193	126.224	124.408	120.730	124.292	124.990	124.967
56.0	154.160	149.993	140.052	124.222	120.637	118.262	122.802	123.617	123.570
56.5	153.206	148.922	138.772	122.616	117.122	115.911	121.359	122.290	122.220
57.0	152.391	148.061	137.631	120.893	113.839	114.119	120.008	120.916	120.963
57.5	151.413	146.897	136.491	119.263	110.580	112.698	118.612	119.589	119.706
58.0	150.645	145.966	135.280	118.076	107.554	111.534	117.122	118.332	118.425
58.5	149.574	145.104	134.256	117.168	104.900	110.301	115.795	117.029	117.075
59.0	148.852	144.126	133.185	116.074	102.642	109.160	114.491	115.702	115.888
59.5	147.944	143.195	132.067	115.120	100.779	108.042	113.094	114.561	114.817
60.0	146.967	142.334	131.043	114.119	99.382	106.878	111.884	113.304	113.467
60.5	146.105	141.449	130.042	113.094	98.218	105.645	110.580	112.000	112.419
61.0	145.337	140.541	128.994	112.023	97.264	104.434	109.253	110.859	111.069
61.5	144.708	139.750	127.807	111.069	96.402	103.293	108.089	109.649	110.068
62.0	143.777	138.819	126.923	109.882	95.588	102.176	106.809	108.485	108.787
62.5	142.916	137.934	125.922	108.927	94.633	100.965	105.668	107.344	107.577
63.0	142.171	137.073	124.874	107.880	93.725	99.801	104.504	106.040	106.576
63.5	141.193	136.211	123.943	106.855	92.794	98.637	103.317	105.039	105.342
64.0	140.425	135.466	123.081	105.877	91.840	97.590	102.083	103.922	104.294
64.5	139.866	134.628	122.057	104.783	90.862	96.402	101.012	102.851	103.154
65.0	139.075	133.790	121.289	103.806	89.931	95.332	99.871	101.687	102.083
65.5	138.190	132.975	120.241	102.874	88.953	94.098	98.614	100.733	100.989
66.0	137.422	132.254	119.403	101.850	87.998	93.050	97.566	99.615	99.941
66.5	136.747	131.369	118.472	100.779	87.067	91.979	96.402	98.521	98.963
67.0	136.025	130.694	117.564	99.988	85.950	90.815	95.215	97.427	97.869
67.5	135.164	129.879	116.633	99.010	85.088	89.675	94.261	96.402	96.798
68.0	134.419	129.041	115.818	97.892	84.180	88.767	93.213	95.332	95.844
68.5	133.767	128.273	114.980	97.031	83.156	87.556	92.119	94.400	94.936
69.0	133.092	127.598	114.072	96.077	82.155	86.625	91.164	93.353	93.725
69.5	132.347	126.806	113.257	95.052	81.224	85.624	90.094	92.352	92.794
70.0	131.695	126.131	112.349	94.214	80.223	84.483	89.139	91.374	91.909
70.5	130.834	125.340	111.441	93.306	79.245	83.482	88.115	90.443	90.699
71.0	130.089	124.595	110.790	92.259	78.291	82.481	87.090	89.372	89.884
71.5	129.507	124.013	109.975	91.444	77.359	81.480	86.089	88.464	88.930
72.0	128.832	123.244	109.113	90.489	76.452	80.409	85.158	87.463	87.998
72.5	128.203	122.523	108.392	89.512	75.497	79.478	84.180	86.578	87.021
73.0	127.435	121.824	107.600	88.743	74.566	78.477	83.273	85.577	86.113
73.5	126.713	121.172	106.785	87.789	73.635	77.476	82.272	84.716	85.158
74.0	126.224	120.404	106.040	86.858	72.750	76.521	81.387	83.785	84.297
74.5	125.689	119.682	105.202	86.089	71.749	75.544	80.456	82.877	83.342
75.0	124.920	119.100	104.481	85.275	70.934	74.682	79.594	82.039	82.388
75.5	124.152	118.379	103.829	84.343	70.050	73.798	78.663	81.038	81.527
76.0	123.524	117.727	103.107	83.552	69.095	72.797	77.732	80.176	80.595
76.5	122.779	117.075	102.292	82.760	68.187	71.982	76.847	79.292	79.781
77.0	122.034	116.377	101.710	81.922	67.396	71.097	75.916	78.477	78.942
77.5	121.661	115.818	100.942	81.061	66.464	70.119	75.078	77.546	78.174
78.0	120.963	115.120	100.127	80.316	65.696	69.328	74.240	76.684	77.243
78.5	120.171	114.421	99.545	79.385	64.788	68.466	73.402	75.846	76.428
79.0	119.752	113.769	98.847	78.710	63.950	67.535	72.517	75.031	75.427
79.5	118.938	113.141	98.055	78.011	63.112	66.674	71.679	74.147	74.659
80.0	118.565	112.489	97.473	77.103	62.321	65.836	70.841	73.332	73.844
80.5	117.890	111.930	96.728	76.405	61.576	65.021	69.956	72.587	73.122
81.0	117.215	111.325	96.053	75.660	60.761	64.183	69.258	71.726	72.168
81.5	116.772	110.603	95.448	74.915	60.086	63.485	68.466	70.957	71.400
82.0	116.004	109.998	94.726	74.263	59.317	62.646	67.582	70.259	70.678
82.5	115.492	109.509	94.005	73.588	58.526	61.785	66.837	69.468	69.910

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83.0	114.724	108.787	93.446	72.820	57.758	61.087	66.092	68.676	69.095
83.5	114.165	108.275	92.817	72.121	57.059	60.365	65.300	67.861	68.280
84.0	113.676	107.717	92.119	71.539	56.338	59.574	64.602	67.186	67.512
84.5	113.071	107.041	91.607	70.794	55.662	58.829	63.810	66.348	66.720
85.0	112.582	106.436	91.002	70.189	55.034	58.084	63.135	65.673	66.162
85.5	112.047	105.877	90.326	69.561	54.289	57.292	62.484	64.928	65.347
86.0	111.488	105.295	89.744	68.886	53.684	56.664	61.645	64.043	64.765
86.5	110.906	104.830	89.279	68.304	53.009	55.942	60.947	63.391	63.810
87.0	110.277	104.248	88.604	67.861	52.403	55.267	60.318	62.786	63.159
87.5	109.765	103.643	88.115	67.163	51.938	54.638	59.620	62.018	62.553
88.0	109.276	103.293	87.626	66.720	51.239	54.010	59.015	61.389	61.785
88.5	108.741	102.758	87.090	66.232	50.820	53.381	58.363	60.761	61.110
89.0	108.648	102.455	86.695	65.696	50.331	52.939	57.734	60.039	60.342
89.5	108.694	102.432	86.695	65.650	49.982	52.473	57.152	59.457	59.760
90.0	108.485	102.572	86.858	65.743	50.168	52.357	56.920	59.108	59.364
90.5	108.834	102.711	86.881	65.813	50.168	52.403	56.780	58.922	59.248
91.0	109.137	102.804	87.021	65.952	50.122	52.403	56.664	58.829	59.131
91.5	109.230	103.084	87.137	66.092	50.285	52.427	56.640	58.782	58.922
92.0	109.416	103.061	87.370	66.045	50.308	52.427	56.524	58.596	58.852
92.5	109.556	103.247	87.463	66.232	50.448	52.357	56.431	58.410	58.689
93.0	109.742	103.410	87.463	66.395	50.401	52.217	56.431	58.340	58.596
93.5	110.021	103.526	87.789	66.464	50.634	52.240	56.431	58.247	58.433
94.0	110.138	103.759	87.882	66.651	50.587	52.194	56.221	58.153	58.247
94.5	110.301	103.829	88.022	66.697	50.704	52.077	56.291	57.990	57.967
95.0	110.650	103.992	88.115	66.814	50.704	52.077	56.128	57.665	57.804
95.5	110.603	104.248	88.231	66.953	50.774	52.054	56.012	57.571	57.734
96.0	110.883	104.364	88.394	67.046	50.820	52.008	55.895	57.455	57.432
96.5	111.022	104.481	88.674	67.116	50.960	51.938	55.756	57.199	57.292
97.0	111.185	104.644	88.627	67.279	50.937	51.891	55.686	57.036	56.989
97.5	111.302	104.783	88.767	67.465	50.960	51.775	55.616	56.989	56.873
98.0	111.558	104.807	88.930	67.442	51.146	51.821	55.406	56.757	56.687
98.5	111.581	105.016	89.046	67.652	51.169	51.682	55.337	56.594	56.454
99.0	111.721	105.156	89.046	67.838	51.239	51.542	55.290	56.407	56.268
99.5	111.884	105.202	89.209	67.768	51.286	51.542	55.034	56.221	55.942
100.0	111.930	105.319	89.279	67.908	51.402	51.449	54.987	56.058	55.802
100.5	112.116	105.342	89.302	68.024	51.426	51.379	54.918	55.825	55.569
101.0	112.093	105.412	89.395	68.164	51.542	51.286	54.778	55.569	55.337
101.5	112.349	105.458	89.488	68.210	51.588	51.123	54.615	55.430	55.011
102.0	112.256	105.528	89.465	68.327	51.775	51.076	54.452	55.174	54.918
102.5	112.326	105.528	89.488	68.350	51.775	51.006	54.242	54.941	54.685
103.0	112.349	105.598	89.535	68.443	51.914	50.820	54.056	54.755	54.475
103.5	112.349	105.621	89.488	68.583	51.868	50.750	53.916	54.615	54.056
104.0	112.536	105.645	89.395	68.443	51.914	50.634	53.707	54.382	53.963
104.5	112.582	105.738	89.418	68.583	51.961	50.494	53.428	54.103	53.591
105.0	112.373	105.761	89.372	68.653	52.101	50.355	53.172	53.940	53.334
105.5	112.489	105.621	89.349	68.513	52.147	50.238	52.915	53.637	53.032
106.0	112.582	105.645	89.418	68.560	52.077	50.145	52.659	53.311	52.846
106.5	112.536	105.691	89.372	68.560	52.147	50.029	52.427	53.078	52.543
107.0	112.605	105.691	89.302	68.536	52.077	49.936	52.147	52.729	52.310
107.5	112.536	105.621	89.279	68.513	52.077	49.796	51.914	52.450	51.914
108.0	112.536	105.598	89.232	68.629	52.147	49.517	51.658	51.984	51.519
108.5	112.582	105.575	89.279	68.513	52.054	49.470	51.426	51.705	51.100
109.0	112.373	105.552	89.162	68.513	52.101	49.214	51.169	51.309	50.844
109.5	112.442	105.389	89.046	68.420	51.984	49.144	50.913	51.006	50.262
110.0	112.326	105.412	88.976	68.420	52.054	49.028	50.657	50.541	50.075
110.5	112.349	105.226	88.976	68.397	51.961	48.888	50.331	50.308	49.493

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CANDELA TABULATION - (Cont.)

111.0	112.210	105.249	88.883	68.466	51.984	48.748	50.122	49.912	49.074
111.5	112.140	105.179	88.883	68.373	51.868	48.632	49.749	49.586	48.865
112.0	111.860	105.132	88.790	68.350	51.845	48.399	49.517	49.167	48.353
112.5	111.930	105.039	88.604	68.280	51.891	48.329	49.307	48.841	47.887
113.0	111.884	104.900	88.604	68.210	51.868	48.120	49.051	48.492	47.468
113.5	111.744	104.783	88.487	68.117	51.798	48.027	48.678	48.003	47.142
114.0	111.558	104.713	88.324	68.117	51.775	47.910	48.446	47.747	46.770
114.5	111.604	104.574	88.254	68.001	51.751	47.677	48.213	47.212	46.304
115.0	111.325	104.411	88.045	67.908	51.635	47.538	47.724	46.700	45.768
115.5	111.232	104.434	87.952	67.838	51.658	47.352	47.608	46.234	45.349
116.0	110.999	104.108	87.766	67.675	51.472	47.328	47.212	45.606	44.861
116.5	111.022	104.015	87.649	67.652	51.542	47.049	46.816	45.117	44.372
117.0	110.720	103.852	87.463	67.535	51.426	46.956	46.653	44.674	43.534
117.5	110.464	103.619	87.393	67.419	51.309	46.793	46.397	44.046	43.091
118.0	110.324	103.456	87.114	67.233	51.216	46.583	46.025	43.580	42.346
118.5	110.114	103.363	86.974	67.140	51.076	46.420	45.699	43.068	41.811
119.0	109.835	103.061	86.811	67.093	51.006	46.281	45.512	42.533	41.159
119.5	109.602	102.921	86.648	66.977	51.006	46.141	45.093	41.927	40.461
120.0	109.393	102.781	86.508	66.790	50.844	45.978	44.907	41.299	39.832
120.5	109.230	102.409	86.322	66.558	50.727	45.745	44.558	40.740	39.227
121.0	108.997	102.246	86.043	66.558	50.541	45.582	44.185	40.228	38.598
121.5	108.578	102.083	85.810	66.441	50.541	45.349	44.022	39.716	37.946
122.0	108.392	101.734	85.647	66.162	50.471	45.163	43.697	39.134	37.271
122.5	108.066	101.501	85.484	65.999	50.285	45.093	43.394	38.645	36.713
123.0	107.810	101.291	85.182	65.929	50.168	44.814	43.138	38.109	36.084
123.5	107.460	100.849	84.925	65.626	50.075	44.674	42.882	37.644	35.316
124.0	107.414	100.523	84.762	65.533	50.029	44.535	42.463	37.085	34.804
124.5	106.832	100.290	84.506	65.370	49.842	44.302	42.253	36.619	34.245
125.0	106.436	99.918	84.274	65.184	49.680	44.255	42.044	36.107	33.663
125.5	106.040	99.615	83.924	64.928	49.563	44.046	41.788	35.665	33.221
126.0	105.575	99.196	83.668	64.788	49.517	43.953	41.625	35.269	32.732
126.5	105.389	98.800	83.366	64.555	49.400	43.836	41.322	34.804	32.243
127.0	104.690	98.498	83.110	64.439	49.330	43.720	40.973	34.431	31.754
127.5	104.225	98.032	82.760	64.230	49.237	43.534	40.787	34.105	31.381
128.0	103.899	97.613	82.458	63.973	49.074	43.487	40.577	33.593	30.962
128.5	103.386	97.147	82.132	63.834	49.074	43.440	40.274	33.174	30.567
129.0	102.874	96.891	81.852	63.578	48.865	43.231	40.042	32.708	30.171
129.5	102.525	96.379	81.457	63.415	48.772	43.091	39.879	32.313	29.915
130.0	101.850	96.053	81.131	63.089	48.678	42.835	39.460	31.940	29.542
130.5	101.454	95.588	80.758	62.926	48.678	42.765	39.297	31.591	29.053
131.0	100.989	95.122	80.409	62.786	48.446	42.626	39.064	31.265	28.844
131.5	100.593	94.726	80.106	62.484	48.353	42.533	38.784	30.823	28.634
132.0	99.918	94.261	79.664	62.414	48.283	42.439	38.552	30.497	28.239
132.5	99.312	93.655	79.338	62.064	48.143	42.300	38.389	30.148	27.889
133.0	98.893	93.213	78.966	61.785	47.934	42.160	38.109	29.845	27.820
133.5	98.265	92.748	78.570	61.599	47.910	42.044	37.900	29.612	27.470
134.0	97.753	92.189	78.198	61.320	47.701	41.997	37.644	29.286	27.354
134.5	97.264	91.677	77.802	61.017	47.677	41.857	37.481	28.937	27.051
135.0	96.682	91.188	77.313	60.738	47.491	41.671	37.248	28.728	26.819
135.5	96.123	90.559	77.010	60.505	47.352	41.694	37.015	28.471	26.586
136.0	95.495	90.233	76.545	60.225	47.189	41.438	36.736	28.052	26.283
136.5	94.913	89.698	76.149	60.039	47.072	41.322	36.480	27.866	25.980
137.0	94.261	89.069	75.730	59.690	46.956	41.182	36.387	27.587	25.655
137.5	93.609	88.534	75.311	59.434	46.723	41.066	36.037	27.261	25.538
138.0	92.910	87.975	74.868	59.201	46.676	40.856	35.921	27.121	25.468
138.5	92.375	87.370	74.496	58.898	46.537	40.856	35.828	26.888	25.166

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CANDELA TABULATION - (Cont.)

139.0	91.677	86.881	74.007	58.549	46.281	40.787	35.502	26.562	24.979
139.5	91.071	86.252	73.542	58.270	46.164	40.624	35.339	26.376	24.747
140.0	90.606	85.694	72.913	58.037	46.094	40.577	35.176	26.120	24.514
140.5	89.954	85.019	72.587	57.595	45.815	40.368	34.873	25.934	24.304
141.0	89.302	84.576	72.075	57.432	45.722	40.205	34.780	25.608	24.025
141.5	88.743	83.831	71.656	57.059	45.536	40.181	34.548	25.375	23.792
142.0	88.068	83.273	71.120	56.687	45.303	40.042	34.361	25.096	23.513
142.5	87.253	82.691	70.678	56.407	45.163	39.879	34.245	24.979	23.233
143.0	86.602	82.015	70.166	56.035	45.000	39.832	34.082	24.607	23.164
143.5	85.903	81.340	69.607	55.662	44.814	39.623	33.803	24.397	22.954
144.0	85.251	80.712	69.118	55.383	44.558	39.460	33.756	24.211	22.814
144.5	84.553	80.060	68.629	55.080	44.395	39.506	33.709	24.072	22.651
145.0	83.808	79.501	68.187	54.615	44.185	39.320	33.453	23.769	22.535
145.5	83.133	78.849	67.675	54.359	44.046	39.157	33.290	23.652	22.512
146.0	82.365	78.151	67.116	54.010	43.813	38.971	33.221	23.490	22.651
146.5	81.690	77.429	66.534	53.637	43.557	38.901	33.011	23.140	22.628
147.0	81.014	76.801	66.092	53.265	43.324	38.761	33.034	22.977	22.558
147.5	80.316	76.009	65.556	52.892	43.254	38.645	32.825	22.838	22.628
148.0	79.478	75.357	64.974	52.543	42.952	38.482	32.685	22.651	22.675
148.5	78.686	74.729	64.486	52.147	42.835	38.342	32.569	22.442	22.721
149.0	77.848	74.100	63.904	51.821	42.556	38.249	32.522	22.232	22.838
149.5	77.266	73.379	63.345	51.356	42.300	38.179	32.382	22.139	22.954
150.0	76.475	72.587	62.786	51.030	42.020	37.946	32.266	21.976	22.931
150.5	75.707	71.982	62.204	50.657	41.881	37.900	32.196	21.883	23.070
151.0	74.962	71.144	61.692	50.192	41.625	37.714	32.057	21.860	23.233
151.5	74.286	70.469	61.157	49.866	41.392	37.620	31.940	21.674	23.140
152.0	73.309	69.840	60.528	49.540	41.182	37.434	31.847	21.464	23.094
152.5	72.517	69.025	60.016	49.051	40.903	37.341	31.661	21.441	23.187
153.0	71.912	68.257	59.317	48.562	40.717	37.225	31.684	21.348	23.164
153.5	70.981	67.582	58.829	48.190	40.437	37.038	31.638	21.324	23.257
154.0	70.189	66.837	58.200	47.817	40.205	36.876	31.451	21.278	23.187
154.5	69.328	66.045	57.548	47.352	39.995	36.713	31.451	21.278	23.140
155.0	68.466	65.231	56.989	46.909	39.786	36.526	31.312	21.255	23.140
155.5	67.698	64.439	56.407	46.444	39.506	36.387	31.125	21.301	23.280
156.0	66.953	63.741	55.779	46.118	39.227	36.294	31.125	21.324	23.280
156.5	65.929	62.972	55.104	45.606	39.064	36.084	31.125	21.231	23.420
157.0	65.300	62.251	54.568	45.117	38.691	35.944	30.986	21.045	23.373
157.5	64.392	61.459	53.893	44.674	38.389	35.712	30.939	20.952	23.257
158.0	63.578	60.598	53.358	44.302	38.179	35.595	30.916	20.789	23.257
158.5	62.856	59.923	52.799	43.790	37.830	35.409	30.799	20.486	23.233
159.0	61.948	59.178	52.077	43.324	37.551	35.153	30.753	20.370	23.257
159.5	61.110	58.340	51.472	42.928	37.271	35.083	30.706	20.091	23.280
160.0	60.249	57.502	50.820	42.346	36.969	34.827	30.543	20.067	23.257
160.5	59.480	56.733	50.215	41.904	36.713	34.734	30.404	19.951	23.233
161.0	58.572	55.895	49.517	41.485	36.456	34.501	30.264	19.904	23.420
161.5	57.595	55.104	48.935	40.880	36.107	34.315	30.054	19.625	23.513
162.0	56.687	54.312	48.143	40.368	35.828	34.082	29.845	19.439	23.629
162.5	55.825	53.497	47.538	39.972	35.665	33.919	29.519	19.229	23.629
163.0	54.964	52.636	46.886	39.436	35.223	33.686	28.797	19.090	23.676
163.5	54.033	51.868	46.164	38.971	35.036	33.453	28.029	18.740	23.815
164.0	53.265	51.006	45.536	38.528	34.757	33.384	27.075	18.158	23.746
164.5	52.310	50.122	44.861	37.900	34.408	33.104	25.887	17.646	23.303
165.0	51.402	49.237	44.185	37.411	34.082	32.662	24.793	17.390	22.605
165.5	50.424	48.446	43.487	36.852	33.779	32.150	23.629	17.274	21.674
166.0	49.586	47.584	42.765	36.410	33.384	31.335	22.232	17.181	20.603
166.5	48.585	46.676	41.951	35.921	32.941	30.217	21.068	16.948	19.090

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167.0	47.561	45.815	41.299	35.455	32.243	29.030	20.137	16.831	17.297
167.5	46.653	44.954	40.624	34.873	31.242	27.610	19.206	16.343	15.737
168.0	45.606	43.929	39.692	34.431	29.845	26.074	18.624	16.017	13.875
168.5	44.651	43.021	38.994	33.872	28.611	24.630	18.252	15.621	12.152
169.0	43.673	42.183	38.342	33.034	26.935	23.094	17.832	14.853	10.104
169.5	42.649	41.299	37.481	32.010	25.445	21.604	17.670	14.015	7.915
170.0	41.578	40.344	36.619	30.636	23.769	20.463	17.344	12.804	5.890
170.5	40.554	39.134	35.712	29.216	22.349	19.718	16.878	11.314	4.260
171.0	39.506	38.016	34.385	27.726	21.162	18.973	16.506	10.010	2.607
171.5	38.552	37.062	33.244	26.167	20.347	18.554	15.854	8.893	1.723
172.0	37.434	35.991	32.126	24.677	19.625	18.252	14.736	7.566	1.536
172.5	36.480	34.524	30.567	23.583	18.996	17.716	13.433	6.262	1.513
173.0	34.804	33.197	29.077	22.558	18.461	17.111	12.106	5.005	1.443
173.5	32.802	31.684	27.401	21.348	17.786	15.877	10.360	4.237	1.234
174.0	31.731	29.729	25.468	20.370	17.227	14.084	8.567	3.911	1.071
174.5	29.985	27.843	23.722	19.253	16.180	12.292	6.844	3.515	0.908
175.0	27.889	25.818	22.046	17.856	14.666	10.243	5.471	3.213	0.698
175.5	25.166	23.466	20.067	16.436	12.804	8.008	4.679	2.654	0.512
176.0	22.442	20.859	18.112	14.736	10.825	6.076	4.144	2.212	0.675
176.5	19.509	17.926	15.807	12.338	8.520	4.679	3.539	1.560	0.535
177.0	16.086	14.946	13.223	9.894	6.449	3.934	2.980	1.024	0.442
177.5	12.548	11.593	10.779	7.706	4.749	3.469	2.514	0.675	0.442
178.0	8.777	8.125	8.218	5.238	3.492	2.887	1.979	0.559	0.745
178.5	5.587	5.191	5.424	3.329	2.817	2.375	1.490	0.605	0.512
179.0	3.282	3.120	2.910	2.072	2.188	1.886	1.164	0.559	0.582
179.5	1.164	1.769	1.117	1.117	1.513	1.513	0.722	0.582	0.815
180.0	0.838	0.838	0.838	0.838	0.838	0.838	0.838	0.838	0.838

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	94.90	N.A.	7.40
0-30	217.92	N.A.	16.90
0-40	366.69	N.A.	28.50
0-60	627.45	N.A.	48.70
0-80	830.12	N.A.	64.40
0-90	912.02	N.A.	70.80
10-90	890.52	N.A.	69.10
20-40	271.79	N.A.	21.10
20-50	412.02	N.A.	32.00
40-70	368.22	N.A.	28.60
60-80	202.67	N.A.	15.70
70-80	95.22	N.A.	7.40
80-90	81.90	N.A.	6.40
90-110	149.73	N.A.	11.60
90-120	215.73	N.A.	16.70
90-130	270.91	N.A.	21.00
90-150	345.35	N.A.	26.80
90-180	376.85	N.A.	29.20
110-180	227.12	N.A.	17.60
0-180	1288.87	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	21.50
10-20	73.39
20-30	123.02
30-40	148.77
40-50	140.22
50-60	120.54
60-70	107.46
70-80	95.22
80-90	81.90
90-100	76.31
100-110	73.42
110-120	66.01
120-130	55.17
130-140	43.24
140-150	31.20
150-160	19.98
160-170	9.82
170-180	1.71

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

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UGR TABLE - CORRECTED

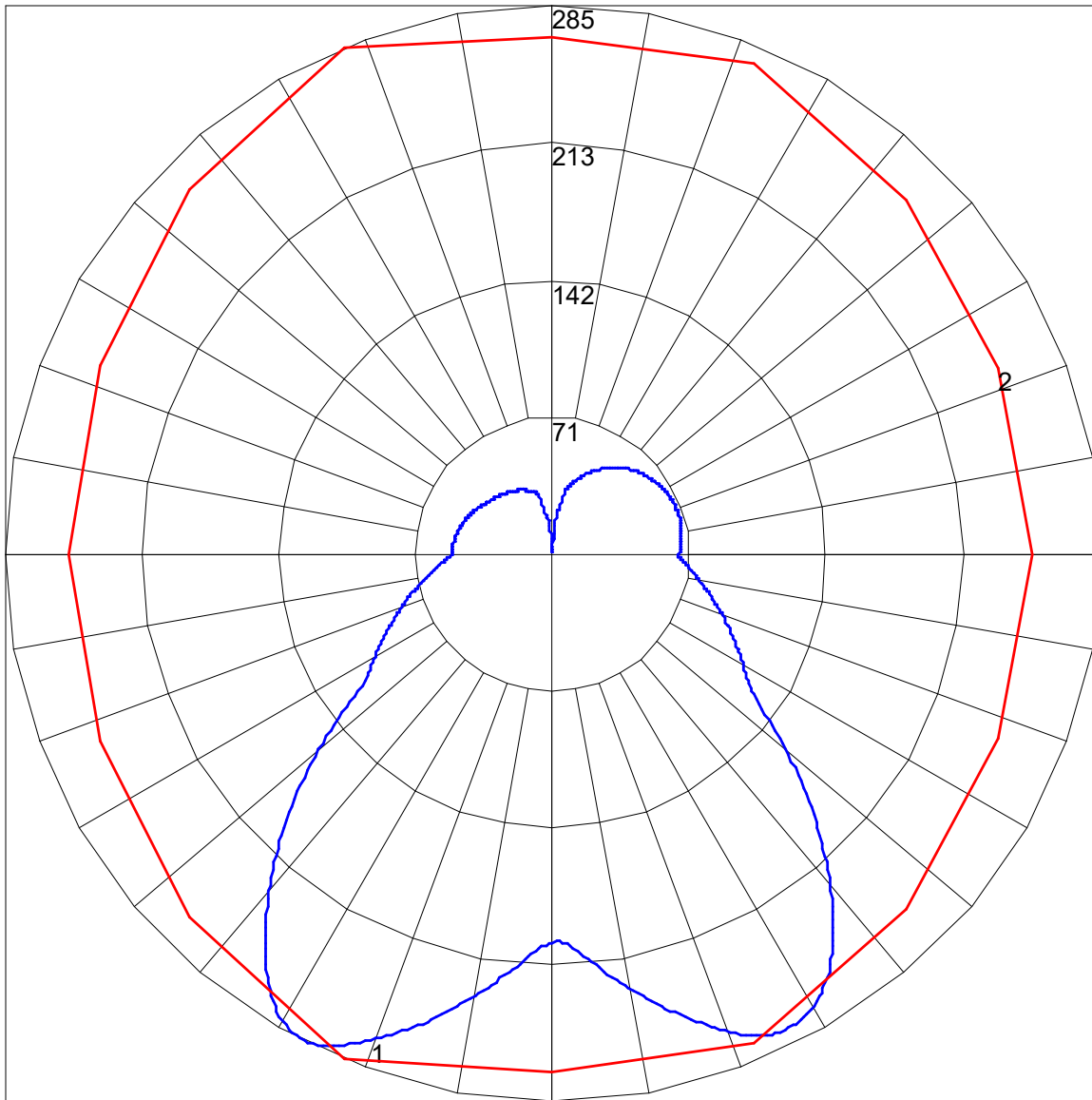
Reflectances

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	12.1	13.2	12.8	14.0	15.0	10.3	11.5	11.1	12.3	13.2
	3H	14.4	15.5	15.1	16.2	17.2	12.1	13.2	12.9	14.0	15.0
	4H	15.5	16.5	16.3	17.3	18.3	13.0	14.0	13.7	14.7	15.7
	6H	16.6	17.5	17.4	18.3	19.3	13.7	14.6	14.5	15.4	16.4
	8H	17.1	18.0	17.9	18.8	19.8	14.0	14.9	14.8	15.7	16.7
	12H	17.6	18.4	18.4	19.3	20.3	14.3	15.2	15.1	16.0	17.0
4H	2H	12.7	13.7	13.5	14.5	15.5	11.3	12.3	12.1	13.1	14.1
	3H	15.3	16.1	16.1	17.0	18.0	13.3	14.2	14.1	15.0	16.0
	4H	16.6	17.4	17.4	18.2	19.2	14.3	15.1	15.1	15.9	16.9
	6H	17.8	18.5	18.6	19.4	20.4	15.1	15.8	16.0	16.7	17.7
	8H	18.4	19.1	19.2	19.9	21.0	15.5	16.2	16.3	17.0	18.1
	12H	19.0	19.6	19.9	20.5	21.5	15.9	16.5	16.8	17.4	18.4
8H	4H	17.0	17.6	17.8	18.5	19.5	15.0	15.6	15.8	16.5	17.5
	6H	18.5	19.0	19.3	19.9	20.9	16.1	16.6	16.9	17.5	18.5
	8H	19.2	19.7	20.1	20.6	21.7	16.6	17.1	17.4	18.0	19.0
	12H	20.0	20.5	20.9	21.3	22.4	17.1	17.5	17.9	18.4	19.5
12H	4H	17.1	17.7	17.9	18.5	19.6	15.2	15.8	16.0	16.6	17.7
	6H	18.6	19.1	19.5	20.0	21.1	16.3	16.9	17.2	17.7	18.8
	8H	19.5	19.9	20.3	20.8	21.9	17.0	17.4	17.8	18.3	19.4

Maximum UGR = 22.4

POLAR GRAPH



Maximum Candela = 284.621 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.)