



IES INDOOR REPORT

PHOTOMETRIC FILENAME : VWMV-L20-740-T3-XXX-SDGL-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM ATAL009402
[TESTLAB] ATAL-LABS
[ISSUE DATE] 02-13-2023
[MANUFAC] WILLIAMS OUTDOOR
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
[LUMCAT] VWMV-L20-740-T3-xxx-SDGL-DIM-UNV
[LUMINAIRE] VERTICAL MINI ARCHITECTURAL WALL PACK WITH TYPE III
[MORE] MOLDED REFRACTIVE CLEAR ACRYLIC LED LENS AND A SOLITE GLASS
[MORE] LENS.
[LAMPCAT]X4-LUXEON M 4000K
[LAMP](4) LUXEON M 4000K LEDS
[SEARCH_SOURCETYPE] LED
[SEARCH_APPLICATION] Outdoor, Architectural, Commercial, Facade, Direct, Wet Location
[SEARCH_MOUNTING] Wall

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2660
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	102
Total Luminaire Watts	26
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.72
Spacing Criterion (90-270)	1.72
Spacing Criterion (Diagonal)	1.48
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.19 ft
Luminous Width (90-270)	0.68 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	85829	124332	109573
55	45291	119853	132313
65	21742	91532	151390
75	10957	58294	135873
85	5206	27333	71587

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CANDELA TABULATION

	<u>0.0</u>	<u>2.5</u>	<u>5.0</u>	<u>10.0</u>	<u>15.0</u>	<u>20.0</u>	<u>25.0</u>	<u>30.0</u>	<u>35.0</u>	<u>40.0</u>
0.0	808.880	808.880	808.880	808.880	808.880	808.880	808.880	808.880	808.880	808.880
2.5	820.933	822.272	824.950	830.307	835.664	832.986	827.629	827.629	826.290	822.272
5.0	841.021	842.360	845.038	849.056	855.752	854.413	849.056	846.378	845.038	842.360
7.5	866.466	866.466	869.144	874.501	879.858	875.840	871.822	867.805	870.483	866.466
10.0	890.571	890.571	893.250	899.946	903.963	899.946	897.267	894.589	895.928	890.571
12.5	911.999	913.338	916.016	924.051	924.051	925.391	922.712	917.355	922.712	924.051
15.0	940.122	940.122	941.461	942.800	942.800	940.122	934.765	936.104	942.800	941.461
17.5	974.941	974.941	974.941	966.906	969.584	958.871	953.514	957.532	953.514	950.836
20.0	1011.100	1012.439	1013.778	1005.743	1003.065	989.673	984.316	972.263	970.924	969.584
22.5	1048.598	1048.598	1051.276	1048.598	1037.884	1021.813	1005.743	993.690	992.351	991.012
25.0	1094.131	1094.131	1095.470	1086.095	1071.364	1051.276	1033.866	1024.492	1011.100	1000.386
27.5	1130.289	1130.289	1130.289	1112.879	1092.791	1074.042	1052.615	1047.258	1032.527	1009.761
30.0	1146.360	1146.360	1142.342	1123.593	1103.505	1088.774	1076.721	1074.042	1051.276	1035.205
32.5	1128.950	1131.628	1130.289	1114.219	1099.487	1090.113	1091.452	1087.434	1072.703	1056.633
35.0	1098.148	1098.148	1096.809	1090.113	1083.417	1086.095	1092.791	1090.113	1090.113	1071.364
37.5	1032.527	1033.866	1041.902	1039.223	1040.562	1057.972	1076.721	1088.774	1095.470	1083.417
40.0	949.496	946.818	953.514	953.514	962.888	1000.386	1036.545	1063.329	1080.738	1084.756
42.5	832.986	834.325	842.360	846.378	875.840	920.034	972.263	1024.492	1059.311	1070.025
45.0	716.475	715.135	719.153	727.188	771.382	822.272	883.875	957.532	1017.796	1043.241
47.5	601.303	599.964	606.660	621.391	664.246	717.814	783.435	869.144	952.175	997.708
50.0	492.827	496.845	506.220	520.951	565.145	618.713	692.369	783.435	869.144	932.087
52.5	395.065	397.744	408.458	425.867	466.043	522.290	602.642	699.065	778.078	846.378
55.0	306.678	309.356	320.070	338.819	378.995	433.902	522.290	610.677	695.047	762.008
57.5	242.396	239.718	247.753	269.180	302.660	358.907	444.616	527.647	605.321	668.263
60.0	186.149	183.471	190.167	207.577	237.039	289.268	366.942	441.938	511.576	577.197
62.5	141.956	139.277	144.634	159.365	190.167	237.039	301.321	365.603	429.885	488.810
65.0	108.476	104.458	108.476	121.868	145.973	190.167	245.075	297.304	349.533	404.440
67.5	80.352	79.013	81.692	91.066	111.154	149.991	195.524	238.378	279.894	324.088
70.0	58.925	57.586	60.264	68.299	84.370	116.511	152.669	188.828	224.986	255.788
72.5	44.194	44.194	45.533	53.568	65.621	89.727	117.850	145.973	175.436	198.202
75.0	33.480	32.141	33.480	40.176	48.211	66.960	89.727	112.493	132.581	148.652
77.5	24.106	22.766	24.106	28.123	34.819	48.211	64.282	81.692	96.423	107.136
80.0	16.070	16.070	16.070	18.749	22.766	32.141	42.855	54.907	66.960	73.656
82.5	9.374	9.374	9.374	12.053	13.392	20.088	26.784	33.480	41.515	45.533
85.0	5.357	5.357	5.357	6.696	6.696	10.714	13.392	17.410	21.427	24.106
87.5	1.339	1.339	1.339	2.678	2.678	4.018	4.018	5.357	6.696	8.035
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Vert. Angles **Horizontal Angles**

	<u>45.0</u>	<u>50.0</u>	<u>55.0</u>	<u>60.0</u>	<u>65.0</u>	<u>70.0</u>	<u>75.0</u>	<u>80.0</u>	<u>85.0</u>	<u>90.0</u>
0.0	808.880	808.880	808.880	808.880	808.880	808.880	808.880	808.880	808.880	808.880
2.5	820.933	816.915	814.237	814.237	811.558	811.558	807.541	807.541	804.862	803.523
5.0	839.682	835.664	831.646	828.968	827.629	823.611	818.254	815.576	811.558	807.541
7.5	862.448	859.770	853.074	851.734	847.717	845.038	838.342	834.325	827.629	822.272
10.0	886.554	886.554	885.215	883.875	879.858	875.840	867.805	859.770	850.395	839.682
12.5	920.034	914.677	909.320	903.963	899.946	895.928	887.893	879.858	866.466	855.752
15.0	936.104	933.426	933.426	932.087	924.051	917.355	907.981	902.624	890.571	878.518
17.5	952.175	960.210	958.871	956.192	950.836	942.800	932.087	920.034	903.963	889.232
20.0	973.602	972.263	973.602	969.584	964.228	954.853	941.461	932.087	913.338	894.589
22.5	984.316	976.280	972.263	974.941	977.620	968.245	954.853	941.461	920.034	897.267
25.0	985.655	986.994	986.994	982.976	980.298	977.620	966.906	949.496	929.408	903.963
27.5	1003.065	997.708	992.351	986.994	989.673	995.029	984.316	969.584	948.157	921.373
30.0	1019.135	1004.404	1000.386	1004.404	1013.778	1019.135	1008.421	991.012	966.906	934.765

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CANDELA TABULATION - (Cont.)

32.5	1032.527	1013.778	1017.796	1023.153	1031.188	1032.527	1023.153	1004.404	972.263	933.426
35.0	1056.633	1040.562	1031.188	1025.831	1029.849	1032.527	1025.831	1000.386	970.924	930.747
37.5	1070.025	1048.598	1032.527	1028.509	1025.831	1028.509	1021.813	1003.065	970.924	924.051
40.0	1068.686	1049.937	1029.849	1023.153	1028.509	1035.205	1027.170	1004.404	968.245	916.016
42.5	1059.311	1035.205	1016.457	1013.778	1020.474	1028.509	1021.813	1008.421	966.906	913.338
45.0	1037.884	1012.439	1000.386	1001.725	1007.082	1016.457	1023.153	1008.421	969.584	914.677
47.5	1000.386	992.351	978.959	980.298	991.012	1009.761	1020.474	1009.761	969.584	910.659
50.0	954.853	957.532	950.836	956.192	973.602	997.708	1019.135	1012.439	970.924	906.642
52.5	891.911	909.320	920.034	937.444	952.175	981.637	1004.404	1001.725	968.245	898.607
55.0	811.558	859.770	887.893	911.999	938.783	961.549	985.655	992.351	960.210	895.928
57.5	728.528	795.488	838.342	873.162	895.928	928.069	954.853	966.906	936.104	871.822
60.0	638.801	715.135	770.043	815.576	849.056	886.554	916.016	933.426	905.303	841.021
62.5	543.717	628.087	692.369	751.294	791.470	834.325	865.126	889.232	869.144	800.845
65.0	456.669	538.360	607.999	672.281	729.867	776.739	812.897	832.986	816.915	755.312
67.5	370.960	445.955	519.612	585.233	653.532	709.779	741.920	768.704	752.633	693.708
70.0	297.304	360.246	429.885	498.184	567.823	622.730	657.550	684.334	670.942	617.374
72.5	235.700	283.911	346.854	409.797	472.739	523.629	558.448	581.215	567.823	524.968
75.0	178.114	215.612	269.180	325.427	376.317	417.832	449.973	458.008	449.973	415.154
77.5	128.564	156.687	200.881	245.075	283.911	313.374	333.462	340.158	332.123	306.678
80.0	89.727	108.476	139.277	171.418	199.542	219.630	231.682	235.700	230.343	212.934
82.5	54.907	66.960	88.388	108.476	129.903	137.938	148.652	148.652	144.634	133.921
85.0	28.123	34.819	45.533	56.247	68.299	70.978	79.013	77.674	76.335	73.656
87.5	9.374	10.714	16.070	18.749	22.766	25.445	28.123	26.784	28.123	26.784
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Vert.
Angles**

Horizontal Angles

	<u>95.0</u>	<u>100.0</u>	<u>105.0</u>	<u>110.0</u>	<u>115.0</u>	<u>120.0</u>	<u>125.0</u>	<u>130.0</u>	<u>135.0</u>	<u>140.0</u>
0.0	808.880	808.880	808.880	808.880	808.880	808.880	808.880	808.880	808.880	808.880
2.5	802.184	800.845	799.505	798.166	796.827	795.488	795.488	792.809	790.131	790.131
5.0	802.184	799.505	794.149	790.131	784.774	782.096	779.417	774.061	767.364	763.347
7.5	815.576	804.862	794.149	786.113	778.078	770.043	760.668	753.972	745.937	739.241
10.0	828.968	816.915	806.201	796.827	784.774	774.061	760.668	748.616	733.884	721.832
12.5	842.360	824.950	814.237	800.845	788.792	775.400	759.329	744.598	724.510	705.761
15.0	862.448	841.021	823.611	803.523	791.470	771.382	751.294	732.545	712.457	689.691
17.5	867.805	847.717	824.950	806.201	786.113	767.364	745.937	723.171	691.030	661.567
20.0	870.483	846.378	822.272	798.166	776.739	756.651	727.188	695.047	654.871	617.374
22.5	870.483	845.038	814.237	788.792	764.686	737.902	703.083	657.550	606.660	561.127
25.0	873.162	845.038	814.237	784.774	752.633	717.814	666.924	613.356	554.431	498.184
27.5	886.554	850.395	814.237	782.096	740.580	689.691	629.426	565.145	494.167	429.885
30.0	895.928	855.752	818.254	779.417	728.528	658.889	590.589	510.237	429.885	374.977
32.5	889.232	849.056	806.201	764.686	705.761	628.087	547.735	458.008	380.334	334.801
35.0	886.554	838.342	796.827	739.241	668.263	587.911	496.845	407.118	338.819	302.660
37.5	873.162	822.272	776.739	716.475	637.462	537.021	440.598	358.907	306.678	282.572
40.0	863.787	807.541	752.633	687.012	601.303	492.827	388.369	313.374	273.198	258.467
42.5	858.430	798.166	735.224	656.210	554.431	439.259	340.158	274.537	245.075	242.396
45.0	846.378	780.757	709.779	621.391	511.576	389.709	298.643	239.718	216.951	219.630
47.5	837.003	767.364	688.351	583.893	467.383	345.515	255.788	206.238	190.167	196.863
50.0	832.986	755.312	665.585	563.805	435.242	306.678	222.308	176.775	167.401	174.097
52.5	816.915	740.580	649.514	537.021	405.779	274.537	192.846	151.330	143.295	149.991
55.0	810.219	720.492	626.748	508.898	378.995	247.753	168.740	129.903	123.207	129.903
57.5	791.470	696.387	601.303	476.757	344.176	223.647	147.313	111.154	104.458	107.136
60.0	760.668	668.263	566.484	444.616	313.374	198.202	128.564	96.423	87.048	85.709
62.5	720.492	629.426	524.968	409.797	282.572	175.436	112.493	83.031	72.317	70.978
65.0	676.299	587.911	486.131	369.621	254.449	156.687	97.762	70.978	61.603	57.586
67.5	621.391	538.360	441.938	332.123	224.986	136.599	84.370	60.264	50.890	46.872

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CANDELA TABULATION - (Cont.)

70.0	550.413	479.435	389.709	287.929	192.846	116.511	70.978	50.890	42.855	37.498
72.5	466.043	404.440	329.444	242.396	160.705	96.423	60.264	41.515	34.819	29.463
75.0	377.656	322.748	262.484	196.863	128.564	77.674	48.211	33.480	26.784	22.766
77.5	279.894	239.718	198.202	149.991	96.423	58.925	36.159	25.445	21.427	17.410
80.0	196.863	166.061	139.277	105.797	68.299	42.855	26.784	18.749	14.731	12.053
82.5	125.885	105.797	88.388	69.639	44.194	28.123	17.410	12.053	10.714	8.035
85.0	66.960	56.247	48.211	37.498	24.106	16.070	10.714	8.035	5.357	5.357
87.5	24.106	20.088	17.410	14.731	9.374	6.696	4.018	2.678	2.678	2.678
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Vert. Horizontal Angles
Angles

	<u>145.0</u>	<u>150.0</u>	<u>155.0</u>	<u>160.0</u>	<u>165.0</u>	<u>170.0</u>	<u>175.0</u>	<u>180.0</u>
0.0	808.880	808.880	808.880	808.880	808.880	808.880	808.880	808.880
2.5	786.113	784.774	782.096	783.435	784.774	786.113	794.149	795.488
5.0	756.651	752.633	747.276	747.276	745.937	748.616	756.651	759.329
7.5	731.206	723.171	716.475	713.796	711.118	713.796	719.153	721.832
10.0	709.779	699.065	689.691	682.995	676.299	678.977	684.334	688.351
12.5	685.673	673.620	660.228	650.854	641.479	641.479	645.497	645.497
15.0	666.924	642.818	620.052	605.321	587.911	579.876	581.215	577.197
17.5	629.426	597.285	565.145	543.717	519.612	508.898	504.880	498.184
20.0	577.197	535.682	496.845	467.383	437.920	419.171	413.814	409.797
22.5	512.916	463.365	417.832	384.352	358.907	341.497	336.140	329.444
25.0	439.259	393.726	352.211	326.766	309.356	295.964	290.607	286.590
27.5	376.317	338.819	313.374	293.286	283.911	278.555	273.198	270.519
30.0	333.462	304.000	287.929	279.894	277.215	277.215	275.876	274.537
32.5	305.339	286.590	281.233	282.572	285.251	286.590	289.268	287.929
35.0	283.911	277.215	282.572	290.607	295.964	298.643	298.643	297.304
37.5	270.519	277.215	285.251	293.286	298.643	302.660	305.339	302.660
40.0	262.484	265.163	275.876	289.268	293.286	297.304	299.982	299.982
42.5	249.092	254.449	265.163	279.894	289.268	294.625	295.964	295.964
45.0	229.004	242.396	255.788	271.859	281.233	285.251	285.251	286.590
47.5	211.594	226.326	241.057	250.431	258.467	265.163	262.484	269.180
50.0	191.506	203.559	212.934	220.969	222.308	226.326	223.647	227.665
52.5	164.722	172.757	178.114	180.793	178.114	178.114	174.097	178.114
55.0	137.938	140.617	143.295	140.617	135.260	135.260	132.581	133.921
57.5	108.476	109.815	109.815	105.797	101.780	101.780	99.101	99.101
60.0	85.709	85.709	83.031	79.013	74.995	74.995	72.317	72.317
62.5	69.639	66.960	62.943	58.925	54.907	53.568	50.890	52.229
65.0	54.907	50.890	46.872	42.855	38.837	37.498	36.159	36.159
67.5	42.855	38.837	34.819	30.802	28.123	26.784	26.784	25.445
70.0	33.480	29.463	25.445	22.766	21.427	20.088	20.088	20.088
72.5	25.445	21.427	20.088	17.410	16.070	16.070	14.731	14.731
75.0	20.088	17.410	14.731	13.392	12.053	12.053	12.053	12.053
77.5	14.731	12.053	10.714	10.714	9.374	9.374	9.374	9.374
80.0	10.714	9.374	8.035	8.035	6.696	6.696	6.696	6.696
82.5	6.696	6.696	5.357	5.357	5.357	5.357	4.018	4.018
85.0	4.018	4.018	4.018	2.678	2.678	2.678	2.678	2.678
87.5	2.678	1.339	1.339	1.339	1.339	1.339	1.339	1.339
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	308.21	N.A.	11.60
0-30	672.41	N.A.	25.30
0-40	1151.15	N.A.	43.30
0-60	2119.85	N.A.	79.70
0-80	2624.09	N.A.	98.60
0-90	2660.49	N.A.	100.00
10-90	2583.49	N.A.	97.10
20-40	842.94	N.A.	31.70
20-50	1358.04	N.A.	51.00
40-70	1300.06	N.A.	48.90
60-80	504.24	N.A.	19.00
70-80	172.88	N.A.	6.50
80-90	36.40	N.A.	1.40
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	2660.49	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	77.00
10-20	231.21
20-30	364.21
30-40	478.74
40-50	515.10
50-60	453.60
60-70	331.36
70-80	172.88
80-90	36.40
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

IES INDOOR REPORT
PHOTOMETRIC FILENAME : VWMV-L20-740-T3-XXX-SDGL-DIM-UNV_.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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84
2	99	91	84	78	96	89	82	77	85	80	75	82	77	74	79	75	72	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	52	62	56	52	50
5	75	62	53	47	73	61	53	46	59	52	46	57	50	45	55	49	45	43
6	69	56	47	40	68	55	46	40	53	46	40	51	45	39	50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	35	32
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	42	35	31	29
9	56	42	34	28	54	41	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	25	51	38	31	25	37	30	25	36	30	25	35	29	25	23

IES INDOOR REPORT
PHOTOMETRIC FILENAME : VWMV-L20-740-T3-XXX-SDGL-DIM-UNV_.IES

UGR TABLE - CORRECTED

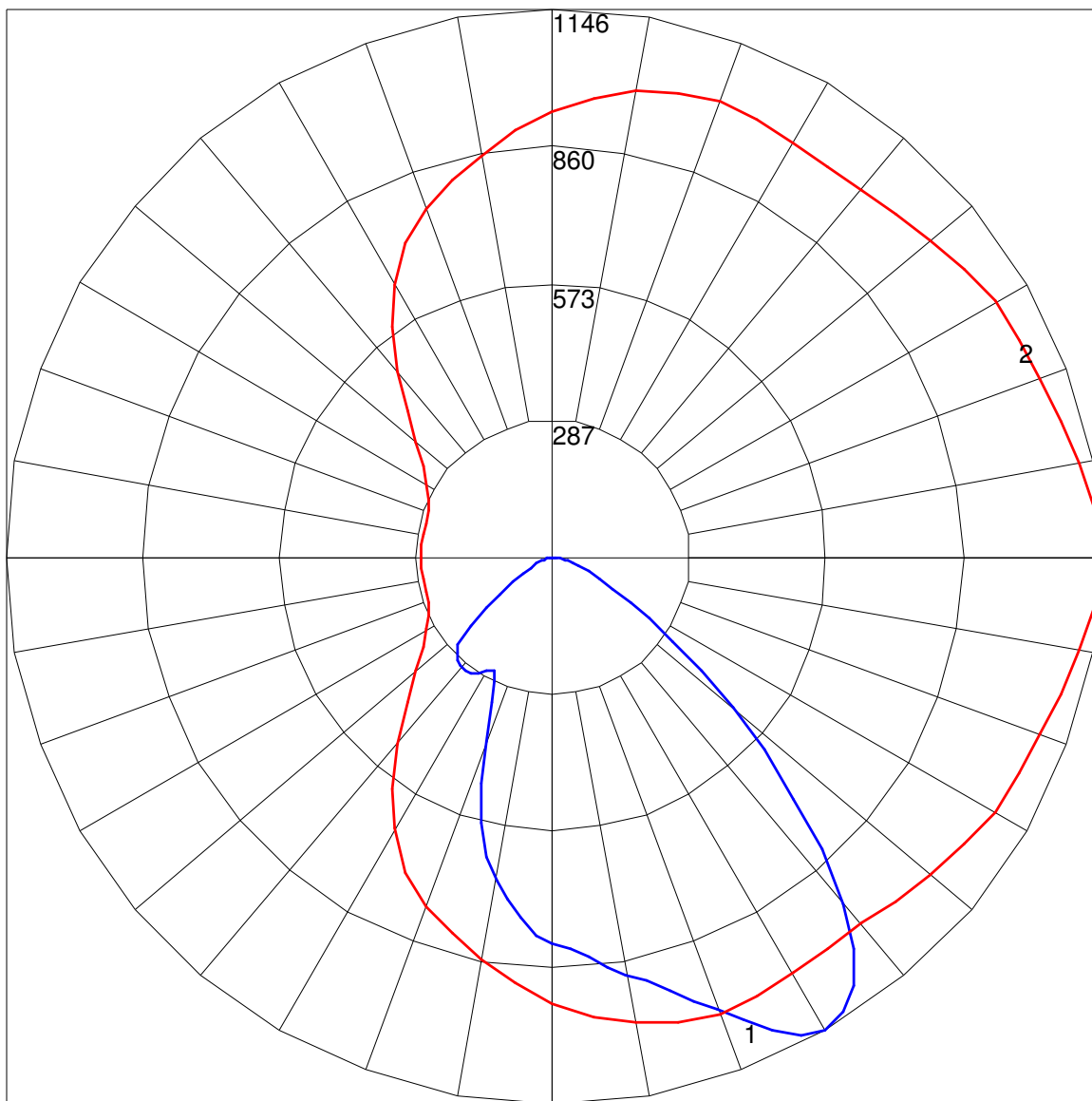
Reflectances

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	25.1	26.7	25.4	27.0	27.3	30.7	32.3	31.0	32.6	33.0
	3H	25.4	26.8	25.7	27.2	27.5	33.4	34.9	33.8	35.3	35.6
	4H	25.4	26.8	25.8	27.1	27.5	34.4	35.8	34.8	36.1	36.5
	6H	25.4	26.7	25.8	27.1	27.4	34.9	36.2	35.3	36.6	37.0
	8H	25.4	26.6	25.8	27.0	27.4	35.0	36.3	35.5	36.7	37.1
	12H	25.4	26.5	25.8	26.9	27.4	35.1	36.3	35.5	36.7	37.1
4H	2H	27.1	28.5	27.5	28.9	29.2	30.8	32.2	31.2	32.5	32.9
	3H	27.7	28.9	28.2	29.3	29.7	33.7	34.9	34.1	35.3	35.7
	4H	27.9	28.9	28.3	29.3	29.8	34.8	35.8	35.2	36.2	36.7
	6H	27.9	28.8	28.3	29.2	29.7	35.5	36.4	35.9	36.8	37.3
	8H	27.9	28.7	28.3	29.2	29.6	35.6	36.5	36.1	37.0	37.4
	12H	27.9	28.6	28.3	29.1	29.6	35.8	36.6	36.3	37.0	37.5
8H	4H	28.9	29.8	29.4	30.3	30.7	34.7	35.6	35.2	36.1	36.5
	6H	29.0	29.8	29.5	30.3	30.7	35.5	36.2	36.0	36.7	37.2
	8H	29.0	29.7	29.6	30.2	30.7	35.8	36.4	36.3	36.9	37.4
	12H	29.0	29.6	29.6	30.1	30.7	35.9	36.5	36.4	37.0	37.6
12H	4H	29.2	30.0	29.7	30.4	30.9	34.7	35.5	35.2	36.0	36.5
	6H	29.3	30.0	29.8	30.4	31.0	35.5	36.1	36.0	36.6	37.1
	8H	29.4	29.9	29.9	30.4	31.0	35.8	36.3	36.3	36.8	37.4

Maximum UGR = 37.6

POLAR GRAPH



Maximum Candela = 1146.36 Located At Horizontal Angle = 0, Vertical Angle = 30
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (30) (Through Max. Cd.)