

# Family Correlated Photometric Data

The following photometric information is developed using correlated data. Finelite considers a family to be a group of luminaires where critical performance metrics such as photometric performance, thermal performance, and electrical performance can be accurately projected via a combination of LM79 tests at the luminaire level and well-documented specifications at the component level.

For more information, please download [Finelite's Family Correlated White Paper](#)

Additional links:

- [Solid-State Lighting: Early Lessons Learned on the Way to Market](#)  
(U.S. Department of Energy)
- [Lighting Facts®](#)
- [Design Lights Consortium®](#)

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : HP-2-P-ID-4FT-H-H-835-WSO-DAO-ITL89456-KPL2008-3.001.IES

### DESCRIPTION INFORMATION (From Photometric File)

[TEST] ITL89456-KPL2008-3.001 Family Correlation File

[TESTLAB] Northern Lights Testing Laboratories

[TESTDATE] 5/18/2021

[ISSUEDATE] 8/24/2021

[MANUFAC] Finelite

[LUMCAT] HP-2-P-ID-4ft-H-H-835-WSO-DAO

[LUMINAIRE] HP Series

[LAMPCAT] 160 LEDs with 80 CRI

[LAMP] Samsung

[BALLAST] Osram

[BALLASTCAT] OTi50W/120-277, 700mA

[MORE] extrapolated from KPL2008-3.IES

[INPUT\_ELECTRICAL]120.0 VOLTS, 55.4 WATTS

[INPUT\_ELECTRICAL]277.0 VOLTS, 56.6 WATTS

[CONVERT] Photometric web converted from original test data

[OTHER]see [www.finelite.com](http://www.finelite.com) for source files ITL89456 and KPL2008-3. For further details on Finelite family correlation files, go to

[more][http://www.finelite.com/download\\_files/series\\_downloads/photometry\\_pdf/FL\\_Family\\_Correlation\\_WhitePaper.pdf](http://www.finelite.com/download_files/series_downloads/photometry_pdf/FL_Family_Correlation_WhitePaper.pdf)

[ABSOLUTE LUMENS]6035

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6036
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	109
Total Luminaire Watts	55.4
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.17 ft
Luminous Width (90-270)	4.00 ft
Luminous Height	0.00 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	18830	19588	14171
55	15981	17784	12641
65	13195	15490	11175
75	11007	13085	9379
85	10984	13037	7800

**IES INDOOR REPORT**

**PHOTOMETRIC FILENAME : HP-2-P-ID-4FT-H-H-835-WSO-DAO-ITL89456-KPL2008-3.001.IES**

**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>	<u>202.5</u>
<b>0.0</b>	1106.418	1106.418	1106.418	1106.418	1106.418	1106.418	1106.418	1106.418	1106.418	1106.418
<b>2.5</b>	1144.084	1138.023	1132.452	1130.865	1112.113	1094.902	1070.782	1058.986	1059.959	1058.986
<b>5.0</b>	1187.042	1177.122	1160.198	1143.034	1106.418	1074.042	1038.484	1020.588	1016.838	1020.588
<b>7.5</b>	1223.332	1210.400	1184.443	1152.223	1097.789	1048.412	1006.505	977.016	981.365	977.016
<b>10.0</b>	1253.435	1239.726	1202.588	1157.638	1085.184	1022.331	975.428	951.790	949.962	951.790
<b>12.5</b>	1282.722	1264.258	1216.819	1158.572	1069.233	993.737	945.076	918.193	917.088	918.193
<b>15.0</b>	1299.319	1281.384	1227.401	1155.273	1050.357	966.683	913.595	880.565	884.059	880.565
<b>17.5</b>	1305.668	1287.686	1232.365	1146.932	1026.844	935.560	882.923	855.542	854.282	855.542
<b>20.0</b>	1299.972	1284.271	1229.432	1134.491	1004.225	905.176	852.251	827.314	824.178	827.314
<b>22.5</b>	1285.165	1271.253	1222.927	1116.673	975.911	872.427	821.984	798.470	796.517	798.470
<b>25.0</b>	1259.458	1250.183	1201.771	1096.700	945.566	839.919	789.678	769.510	769.176	769.510
<b>27.5</b>	1231.789	1220.281	1179.720	1071.474	910.988	806.485	759.497	740.994	741.515	740.994
<b>30.0</b>	1191.111	1184.280	1148.154	1041.495	876.333	771.417	729.066	711.380	713.855	711.380
<b>32.5</b>	1146.201	1143.439	1114.875	1008.380	837.032	736.232	698.231	682.693	685.704	682.693
<b>35.0</b>	1092.179	1095.805	1074.929	971.849	798.961	699.413	665.769	653.733	655.437	653.733
<b>37.5</b>	1036.041	1042.304	1030.509	928.728	759.170	662.112	632.818	623.792	626.477	623.792
<b>40.0</b>	975.506	986.252	983.559	886.012	720.686	625.621	600.356	593.603	597.182	593.603
<b>42.5</b>	907.814	925.803	929.786	839.273	676.266	589.012	567.646	564.238	565.615	564.238
<b>45.0</b>	841.918	863.595	875.842	790.861	633.635	551.011	533.481	532.057	512.247	532.057
<b>47.5</b>	779.431	797.980	823.524	740.869	589.860	514.239	498.981	500.366	506.707	500.366
<b>50.0</b>	708.486	732.489	762.103	686.435	545.681	476.082	466.029	468.270	473.514	468.270
<b>52.5</b>	642.909	668.415	703.763	634.164	503.050	439.831	430.883	434.789	441.784	434.789
<b>55.0</b>	579.613	604.830	645.026	581.970	458.466	402.818	395.901	402.896	407.292	402.896
<b>57.5</b>	515.173	542.063	582.624	529.902	416.971	366.000	360.670	368.443	374.255	368.443
<b>60.0</b>	457.735	483.855	525.015	476.938	377.593	322.171	320.544	332.643	340.899	332.643
<b>62.5</b>	400.126	427.343	467.087	426.736	330.130	295.381	294.066	303.294	306.204	303.294
<b>65.0</b>	352.617	373.726	413.960	377.391	298.642	260.430	260.446	269.479	271.907	269.479
<b>67.5</b>	305.263	324.917	360.911	329.998	261.092	226.872	226.343	234.637	235.329	234.637
<b>70.0</b>	261.169	277.727	310.468	285.173	222.328	193.679	193.928	200.604	205.319	200.604
<b>72.5</b>	217.722	232.731	259.216	240.177	187.384	162.229	162.439	166.804	169.247	166.804
<b>75.0</b>	180.133	192.053	214.142	199.577	153.491	131.581	131.246	127.356	136.163	127.356
<b>77.5</b>	143.680	154.542	171.426	161.295	123.341	102.582	101.072	102.628	102.208	102.628
<b>80.0</b>	112.603	120.618	132.701	124.811	93.657	75.349	72.423	71.638	71.887	71.638
<b>82.5</b>	84.126	89.214	98.123	92.755	67.996	49.945	47.408	40.514	43.401	40.514
<b>85.0</b>	60.534	62.573	71.848	68.393	42.989	27.972	23.265	19.001	15.849	19.001
<b>87.5</b>	36.336	38.188	40.343	35.659	20.277	7.633	4.085	1.463	0.996	1.463
<b>90.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>92.5</b>	14.003	24.116	24.116	23.338	23.338	23.338	24.116	24.116	14.003	24.116
<b>95.0</b>	36.563	64.569	64.569	53.678	52.900	53.678	64.569	64.569	36.563	64.569
<b>97.5</b>	61.458	105.800	129.917	93.353	87.908	93.353	129.917	105.800	61.458	105.800
<b>100.0</b>	87.130	137.696	258.277	150.143	132.250	150.143	258.277	137.696	87.130	137.696
<b>102.5</b>	115.136	168.036	357.076	265.279	210.823	265.279	357.076	168.036	115.136	168.036
<b>105.0</b>	142.364	200.710	413.866	432.537	356.298	432.537	413.866	200.710	142.364	200.710
<b>107.5</b>	169.592	232.605	448.874	583.458	543.783	583.458	448.874	232.605	169.592	232.605
<b>110.0</b>	196.820	262.167	479.991	672.144	679.145	672.144	479.991	262.167	196.820	262.167
<b>112.5</b>	224.048	290.951	516.555	730.489	760.051	730.489	516.555	290.951	224.048	290.951
<b>115.0</b>	252.054	318.179	560.120	772.498	815.285	772.498	560.120	318.179	252.054	318.179
<b>117.5</b>	280.060	345.407	607.574	812.174	858.072	812.174	607.574	345.407	280.060	345.407
<b>120.0</b>	308.066	374.191	646.471	854.182	900.859	854.182	646.471	374.191	308.066	374.191
<b>122.5</b>	333.738	398.307	674.477	913.306	945.980	913.306	674.477	398.307	333.738	398.307
<b>125.0</b>	357.854	421.646	690.036	977.876	1010.549	977.876	690.036	421.646	357.854	421.646
<b>127.5</b>	380.415	443.428	699.372	1021.440	1082.120	1021.440	699.372	443.428	380.415	443.428
<b>130.0</b>	399.085	462.099	704.817	1039.333	1133.464	1039.333	704.817	462.099	399.085	462.099
<b>132.5</b>	417.756	479.214	706.373	1032.332	1149.801	1032.332	706.373	479.214	417.756	479.214

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## CANDELA TABULATION - (Cont.)

135.0	434.093	493.216	705.595	1010.549	1133.464	1010.549	705.595	493.216	434.093	493.216
137.5	448.874	506.442	703.261	980.987	1099.235	980.987	703.261	506.442	448.874	506.442
140.0	463.655	518.111	699.372	948.314	1055.670	948.314	699.372	518.111	463.655	518.111
142.5	477.658	529.002	693.926	911.750	1008.993	911.750	693.926	529.002	477.658	529.002
145.0	492.439	539.115	688.480	876.743	961.539	876.743	688.480	539.115	492.439	539.115
147.5	504.886	546.895	682.257	840.957	913.306	840.957	682.257	546.895	504.886	546.895
150.0	517.333	555.452	674.477	809.062	868.185	809.062	674.477	555.452	517.333	555.452
152.5	529.002	561.676	665.142	778.722	826.177	778.722	665.142	561.676	529.002	561.676
155.0	539.893	566.343	655.807	749.160	787.279	749.160	655.807	566.343	539.893	566.343
157.5	550.006	572.567	647.249	721.932	752.272	721.932	647.249	572.567	550.006	572.567
160.0	558.564	576.456	637.136	695.482	719.598	695.482	637.136	576.456	558.564	576.456
162.5	566.343	579.568	627.023	672.922	689.258	672.922	627.023	579.568	566.343	579.568
165.0	572.567	582.680	616.910	651.139	663.586	651.139	616.910	582.680	572.567	582.680
167.5	578.012	585.014	609.130	632.468	641.026	632.468	609.130	585.014	578.012	585.014
170.0	582.680	587.348	603.685	617.688	623.133	617.688	603.685	587.348	582.680	587.348
172.5	585.014	588.904	597.461	605.240	609.908	605.240	597.461	588.904	585.014	588.904
175.0	588.126	589.682	593.571	597.461	599.017	597.461	593.571	589.682	588.126	589.682
177.5	589.682	589.682	591.237	591.237	592.015	591.237	591.237	589.682	589.682	589.682
180.0	590.459	590.459	590.459	590.459	590.459	590.459	590.459	590.459	590.459	590.459

## Vert. Angles

## Horizontal Angles

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0.0	1106.418	1106.418	1106.418	1106.418	1106.418	1106.418	1106.418
2.5	1070.782	1094.902	1112.113	1130.865	1132.452	1138.023	1144.084
5.0	1038.484	1074.042	1106.418	1143.034	1160.198	1177.122	1187.042
7.5	1006.505	1048.412	1097.789	1152.223	1184.443	1210.400	1223.332
10.0	975.428	1022.331	1085.184	1157.638	1202.588	1239.726	1253.435
12.5	945.076	993.737	1069.233	1158.572	1216.819	1264.258	1282.722
15.0	913.595	966.683	1050.357	1155.273	1227.401	1281.384	1299.319
17.5	882.923	935.560	1026.844	1146.932	1232.365	1287.686	1305.668
20.0	852.251	905.176	1004.225	1134.491	1229.432	1284.271	1299.972
22.5	821.984	872.427	975.911	1116.673	1222.927	1271.253	1285.165
25.0	789.678	839.919	945.566	1096.700	1201.771	1250.183	1259.458
27.5	759.497	806.485	910.988	1071.474	1179.720	1220.281	1231.789
30.0	729.066	771.417	876.333	1041.495	1148.154	1184.280	1191.111
32.5	698.231	736.232	837.032	1008.380	1114.875	1143.439	1146.201
35.0	665.769	699.413	798.961	971.849	1074.929	1095.805	1092.179
37.5	632.818	662.112	759.170	928.728	1030.509	1042.304	1036.041
40.0	600.356	625.621	720.686	886.012	983.559	986.252	975.506
42.5	567.646	589.012	676.266	839.273	929.786	925.803	907.814
45.0	533.481	551.011	633.635	790.861	875.842	863.595	841.918
47.5	498.981	514.239	589.860	740.869	823.524	797.980	779.431
50.0	466.029	476.082	545.681	686.435	762.103	732.489	708.486
52.5	430.883	439.831	503.050	634.164	703.763	668.415	642.909
55.0	395.901	402.818	458.466	581.970	645.026	604.830	579.613
57.5	360.670	366.000	416.971	529.902	582.624	542.063	515.173
60.0	320.544	322.171	377.593	476.938	525.015	483.855	457.735
62.5	294.066	295.381	330.130	426.736	467.087	427.343	400.126
65.0	260.446	260.430	298.642	377.391	413.960	373.726	352.617
67.5	226.343	226.872	261.092	329.998	360.911	324.917	305.263
70.0	193.928	193.679	222.328	285.173	310.468	277.727	261.169
72.5	162.439	162.229	187.384	240.177	259.216	232.731	217.722
75.0	131.246	131.581	153.491	199.577	214.142	192.053	180.133
77.5	101.072	102.582	123.341	161.295	171.426	154.542	143.680
80.0	72.423	75.349	93.657	124.811	132.701	120.618	112.603

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : HP-2-P-ID-4FT-H-H-835-WSO-DAO-ITL89456-KPL2008-3.001.IES****CANDELA TABULATION - (Cont.)**

82.5	47.408	49.945	67.996	92.755	98.123	89.214	84.126
85.0	23.265	27.972	42.989	68.393	71.848	62.573	60.534
87.5	4.085	7.633	20.277	35.659	40.343	38.188	36.336
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92.5	24.116	23.338	23.338	23.338	24.116	24.116	14.003
95.0	64.569	53.678	52.900	53.678	64.569	64.569	36.563
97.5	129.917	93.353	87.908	93.353	129.917	105.800	61.458
100.0	258.277	150.143	132.250	150.143	258.277	137.696	87.130
102.5	357.076	265.279	210.823	265.279	357.076	168.036	115.136
105.0	413.866	432.537	356.298	432.537	413.866	200.710	142.364
107.5	448.874	583.458	543.783	583.458	448.874	232.605	169.592
110.0	479.991	672.144	679.145	672.144	479.991	262.167	196.820
112.5	516.555	730.489	760.051	730.489	516.555	290.951	224.048
115.0	560.120	772.498	815.285	772.498	560.120	318.179	252.054
117.5	607.574	812.174	858.072	812.174	607.574	345.407	280.060
120.0	646.471	854.182	900.859	854.182	646.471	374.191	308.066
122.5	674.477	913.306	945.980	913.306	674.477	398.307	333.738
125.0	690.036	977.876	1010.549	977.876	690.036	421.646	357.854
127.5	699.372	1021.440	1082.120	1021.440	699.372	443.428	380.415
130.0	704.817	1039.333	1133.464	1039.333	704.817	462.099	399.085
132.5	706.373	1032.332	1149.801	1032.332	706.373	479.214	417.756
135.0	705.595	1010.549	1133.464	1010.549	705.595	493.216	434.093
137.5	703.261	980.987	1099.235	980.987	703.261	506.442	448.874
140.0	699.372	948.314	1055.670	948.314	699.372	518.111	463.655
142.5	693.926	911.750	1008.993	911.750	693.926	529.002	477.658
145.0	688.480	876.743	961.539	876.743	688.480	539.115	492.439
147.5	682.257	840.957	913.306	840.957	682.257	546.895	504.886
150.0	674.477	809.062	868.185	809.062	674.477	555.452	517.333
152.5	665.142	778.722	826.177	778.722	665.142	561.676	529.002
155.0	655.807	749.160	787.279	749.160	655.807	566.343	539.893
157.5	647.249	721.932	752.272	721.932	647.249	572.567	550.006
160.0	637.136	695.482	719.598	695.482	637.136	576.456	558.564
162.5	627.023	672.922	689.258	672.922	627.023	579.568	566.343
165.0	616.910	651.139	663.586	651.139	616.910	582.680	572.567
167.5	609.130	632.468	641.026	632.468	609.130	585.014	578.012
170.0	603.685	617.688	623.133	617.688	603.685	587.348	582.680
172.5	597.461	605.240	609.908	605.240	597.461	588.904	585.014
175.0	593.571	597.461	599.017	597.461	593.571	589.682	588.126
177.5	591.237	591.237	592.015	591.237	591.237	589.682	589.682
180.0	590.459	590.459	590.459	590.459	590.459	590.459	590.459

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : HP-2-P-ID-4FT-H-H-835-WSO-DAO-ITL89456-KPL2008-3.001.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	407.04	N.A.	6.70
0-30	862.06	N.A.	14.30
0-40	1395.71	N.A.	23.10
0-60	2367.82	N.A.	39.20
0-80	2860.28	N.A.	47.40
0-90	2910.00	N.A.	48.20
10-90	2805.11	N.A.	46.50
20-40	988.67	N.A.	16.40
20-50	1515.57	N.A.	25.10
40-70	1289.84	N.A.	21.40
60-80	492.46	N.A.	8.20
70-80	174.74	N.A.	2.90
80-90	49.72	N.A.	0.80
90-110	409.03	N.A.	6.80
90-120	948.69	N.A.	15.70
90-130	1565.58	N.A.	25.90
90-150	2587.08	N.A.	42.90
90-180	3125.63	N.A.	51.80
110-180	2716.59	N.A.	45.00
0-180	6035.63	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	104.89
10-20	302.15
20-30	455.02
30-40	533.65
40-50	526.90
50-60	445.22
60-70	317.72
70-80	174.74
80-90	49.72
90-100	71.35
100-110	337.69
110-120	539.66
120-130	616.89
130-140	576.56
140-150	444.94
150-160	305.84
160-170	175.76
170-180	56.94

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : HP-2-P-ID-4FT-H-H-835-WSO-DAO-ITL89456-KPL2008-3.001.IES

## COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

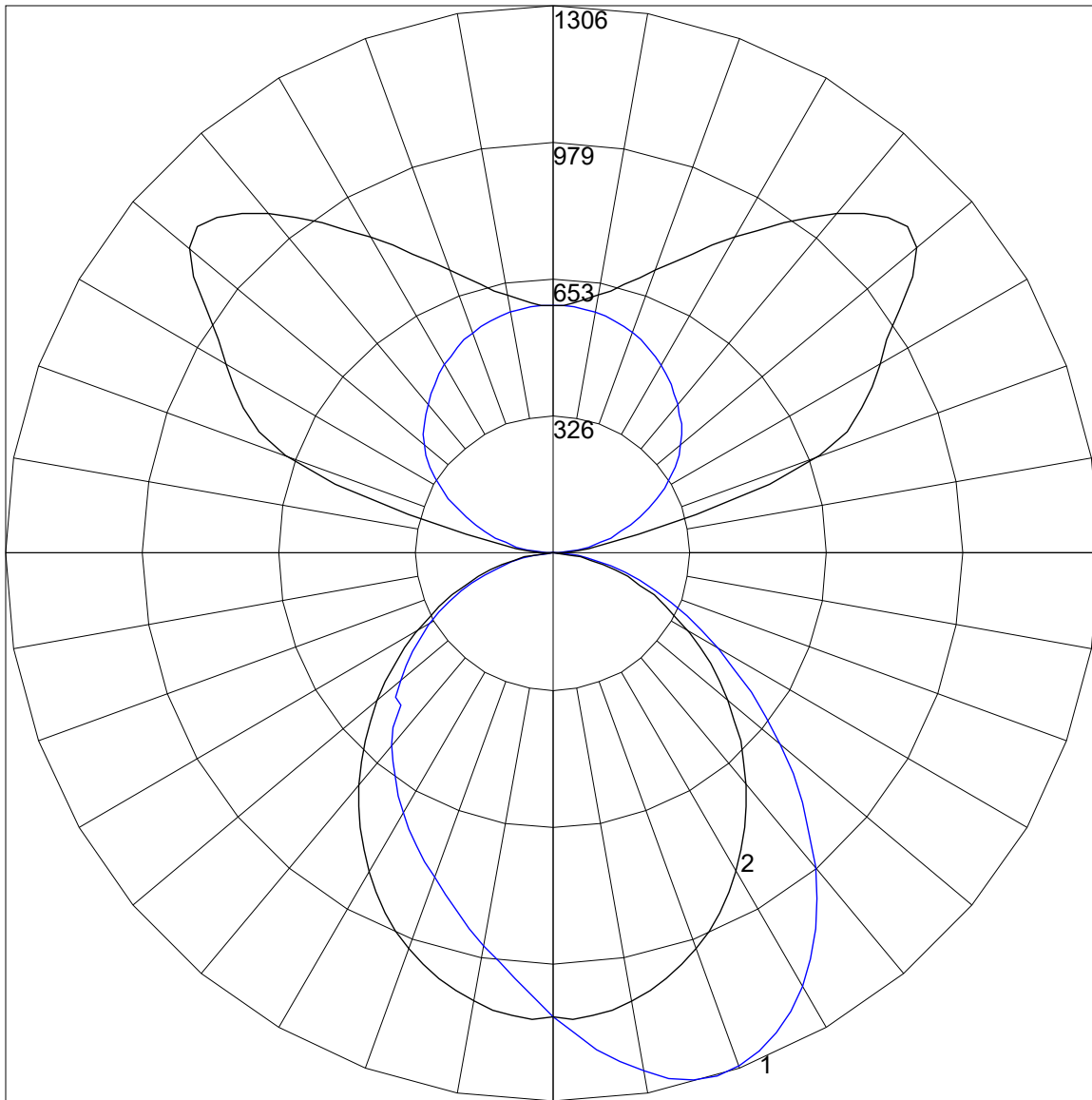
Effective Floor Cavity Reflectance 0.20

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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	97	93	89	86	90	86	83	80	72	70	68	60	58	57	48	47	46	41
2	89	81	75	70	81	75	70	65	63	60	56	53	50	47	43	41	39	34
3	81	72	64	59	74	66	60	55	56	51	47	47	43	40	38	35	33	29
4	74	63	56	50	68	59	52	46	50	45	40	41	38	34	34	31	29	25
5	68	57	48	43	62	52	45	40	45	39	35	37	33	30	30	27	25	22
6	63	51	43	37	58	47	40	35	40	35	30	34	29	26	28	24	22	19
7	58	46	38	32	53	43	35	30	36	31	27	31	26	23	25	22	20	17
8	54	42	34	29	49	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	30	25	46	35	29	24	30	25	21	26	22	19	21	18	16	14
10	47	35	28	23	43	32	26	22	28	23	19	24	20	17	20	17	14	12

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## POLAR GRAPH



Maximum Candela = 1305.668 Located At Horizontal Angle = 0, Vertical Angle = 17.5

# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

# 2 - Vertical Plane Through Horizontal Angles (90 - 270)