

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-WS-4W-4D-4FT-H-8-35-ITL86713.003.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]ITL86713.003 Family Correlation File
[TESTLAB]INDEPENDENT TESTING LABORATORIES, INC.
[TESTDATE]02/11/16
[ISSUE DATE]03/30/16
[MANUFAC]FINELITE, INC.
[LUMCAT]HP-WS-4W-4D-4ft-H-8-35
[OTHER]INPUT ELECTRICAL: 120.0 VOLTS, 28.3 WATTS
[OTHER]INPUT ELECTRICAL: 277.0 VOLTS, 29.2 WATTS
[ABSOLUTE LUMENS]2377
[OTHER]see www.finelite.com for source file ITL86713. 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

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2377
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	84
Total Luminaire Watts	28.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.60
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.08
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.32 ft
Luminous Width (90-270)	4.00 ft
Luminous Height	0.36 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5310	5399	6260
55	4574	4721	5623
65	3737	3901	4895
75	2908	2985	3897
85	2031	2017	1943

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CANDELA TABULATION

	<u>0.0</u>	<u>5.0</u>	<u>15.0</u>	<u>25.0</u>	<u>35.0</u>	<u>45.0</u>	<u>55.0</u>	<u>65.0</u>	<u>75.0</u>	<u>85.0</u>
0.0	969.156	969.156	969.156	969.156	969.156	969.156	969.156	969.156	969.156	969.156
2.5	991.713	990.935	989.379	987.824	983.935	981.601	977.712	974.601	971.490	969.156
5.0	1022.048	1020.492	1018.158	1014.269	1008.047	1000.269	991.713	981.601	970.712	966.045
7.5	1044.604	1042.271	1040.715	1035.270	1026.714	1017.381	1004.158	988.602	971.490	959.822
10.0	1065.605	1061.716	1060.160	1052.382	1043.049	1028.270	1011.936	991.713	968.378	949.711
12.5	1079.606	1076.495	1074.939	1066.383	1053.938	1036.048	1015.047	990.157	962.934	938.044
15.0	1089.717	1086.606	1085.828	1074.939	1061.716	1039.937	1015.825	984.712	954.378	924.821
17.5	1094.384	1093.606	1090.495	1080.384	1064.050	1039.937	1013.492	976.934	943.488	909.265
20.0	1095.940	1094.384	1091.273	1080.384	1063.272	1036.048	1006.491	966.823	928.710	890.597
22.5	1094.384	1092.051	1088.940	1076.495	1057.049	1029.826	997.158	954.378	913.154	870.374
25.0	1089.717	1087.384	1082.717	1068.716	1048.493	1019.714	984.712	938.821	893.708	848.595
27.5	1080.384	1079.606	1073.383	1058.605	1036.826	1006.491	969.934	920.932	872.707	826.038
30.0	1069.494	1067.939	1060.938	1045.382	1022.048	990.157	951.266	901.486	850.151	801.148
32.5	1055.494	1053.938	1046.938	1029.826	1004.936	971.490	930.266	880.485	826.816	773.147
35.0	1039.159	1038.382	1029.826	1011.936	986.268	950.489	908.487	856.373	799.593	744.368
37.5	1022.048	1019.714	1010.380	992.491	964.489	927.932	883.597	831.483	774.703	712.478
40.0	999.491	997.935	987.824	969.156	940.377	902.264	856.373	803.482	743.590	680.587
42.5	976.157	975.379	965.267	944.266	915.487	875.819	828.372	774.703	714.033	649.475
45.0	952.822	949.711	938.821	917.820	887.486	848.595	798.815	743.590	682.921	616.806
47.5	923.265	921.710	910.042	889.041	859.484	818.260	767.702	713.255	650.252	582.583
50.0	891.375	889.819	878.930	857.929	829.150	786.370	735.812	679.809	618.362	547.581
52.5	855.595	854.040	845.484	823.705	796.482	753.702	702.366	645.586	584.138	514.135
55.0	815.927	813.593	804.260	787.148	759.146	720.256	668.920	611.362	550.692	479.133
57.5	773.147	771.591	764.591	745.924	720.256	683.698	633.141	577.138	514.913	444.132
60.0	731.145	728.812	720.256	703.144	678.254	645.586	598.139	543.692	480.689	407.575
62.5	686.810	683.698	675.920	658.808	633.918	603.584	560.026	506.357	444.910	372.573
65.0	642.474	640.141	631.585	614.473	589.583	559.248	520.358	469.022	408.352	337.571
67.5	598.139	596.583	587.250	570.138	546.803	515.691	478.356	432.465	373.351	303.347
70.0	553.804	552.248	545.248	525.802	503.246	471.355	434.798	392.796	336.016	269.124
72.5	510.246	507.913	500.134	482.245	459.688	429.353	391.240	351.572	299.458	234.900
75.0	465.911	462.799	456.577	439.465	417.686	387.351	349.238	310.348	262.123	200.676
77.5	422.353	421.575	412.241	395.907	374.906	346.127	310.348	269.901	224.788	167.230
80.0	380.351	378.018	369.462	353.905	332.904	305.681	268.346	231.011	185.898	134.562
82.5	337.571	335.238	326.682	312.681	293.236	266.012	230.233	193.676	150.118	101.116
85.0	291.680	294.014	285.458	271.457	250.456	226.344	192.120	157.896	115.894	67.670
87.5	249.678	251.234	243.456	229.455	210.010	186.675	156.341	122.117	84.782	35.779
90.0	206.121	207.676	200.676	187.453	168.008	146.229	117.450	85.560	52.891	17.890
92.5	182.008	179.675	174.230	161.007	143.896	121.339	94.115	62.225	32.668	7.000
95.0	153.229	150.896	145.451	133.006	116.672	94.893	70.003	42.002	20.223	2.333
97.5	126.006	124.450	119.783	107.338	92.560	73.115	49.780	32.668	16.334	1.556
100.0	101.894	100.338	95.671	84.782	70.781	55.225	42.780	28.779	11.667	0.778
102.5	80.115	78.559	74.670	66.892	59.892	51.336	39.669	26.446	6.223	0.000
105.0	70.003	69.225	66.892	63.003	56.780	48.224	37.335	21.779	3.111	0.000
107.5	66.892	66.114	64.559	60.669	54.447	45.891	35.002	15.556	1.556	0.000
110.0	63.781	63.781	61.447	58.336	52.114	43.558	29.557	10.112	0.778	0.000
112.5	61.447	61.447	59.114	56.003	49.780	41.224	22.557	5.445	0.778	0.000
115.0	59.114	59.114	57.558	53.669	48.224	32.668	15.556	2.333	0.778	0.000
117.5	57.558	57.558	55.225	51.336	40.446	25.668	10.889	1.556	0.778	0.000
120.0	55.225	54.447	51.336	42.780	31.890	18.668	6.223	0.778	0.778	0.000
122.5	45.891	45.891	42.002	34.224	24.112	12.445	2.333	0.778	0.000	0.000
125.0	36.557	35.779	32.668	26.446	17.112	7.000	0.778	0.778	0.000	0.000
127.5	28.001	27.223	24.890	18.668	10.889	3.111	0.778	0.778	0.000	0.000
130.0	20.223	19.445	17.112	12.445	5.445	0.778	0.778	0.778	0.000	0.000
132.5	13.223	13.223	10.889	6.223	0.778	0.000	0.000	0.000	0.000	0.000

IES INDOOR REPORT
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CANDELA TABULATION - (Cont.)

135.0	7.000	7.000	5.445	1.556	0.000	0.000	0.000	0.000	0.000	0.000
137.5	1.556	1.556	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
142.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
147.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
152.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
157.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
162.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
167.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
172.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
177.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Vert. Horizontal Angles

	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>
0.0	969.156	969.156	969.156	969.156	969.156
2.5	968.378	959.822	944.266	929.488	923.265
5.0	963.712	933.377	886.708	854.040	842.373
7.5	955.156	896.820	821.372	765.369	749.035
10.0	946.600	857.929	749.813	672.809	648.697
12.5	934.155	813.593	675.920	584.916	549.137
15.0	919.376	766.147	600.472	493.134	451.910
17.5	900.709	715.589	525.802	402.130	356.239
20.0	879.708	663.475	450.354	314.237	264.457
22.5	856.373	611.362	378.018	231.789	178.897
25.0	831.483	559.248	307.237	154.007	100.338
27.5	805.815	506.357	239.567	84.782	40.446
30.0	777.036	454.243	175.008	27.223	13.223
32.5	745.924	402.908	115.894	13.223	8.556
35.0	714.811	352.350	62.225	8.556	5.445
37.5	682.143	303.347	21.779	6.223	3.111
40.0	648.697	255.901	14.001	3.889	1.556
42.5	613.695	209.232	10.112	2.333	0.000
45.0	579.471	164.897	7.000	1.556	0.000
47.5	542.914	122.895	4.667	0.778	0.000
50.0	507.913	83.226	3.111	0.778	0.000
52.5	472.911	46.669	1.556	0.778	0.000
55.0	437.131	20.223	0.778	0.000	0.000
57.5	401.352	14.001	0.778	0.000	0.000
60.0	366.350	9.334	0.778	0.000	0.000
62.5	330.571	6.223	0.778	0.000	0.000
65.0	296.347	3.889	0.000	0.000	0.000
67.5	262.123	2.333	0.000	0.000	0.000
70.0	227.899	0.778	0.000	0.000	0.000
72.5	194.453	0.778	0.000	0.000	0.000
75.0	161.785	0.778	0.000	0.000	0.000
77.5	129.895	0.778	0.000	0.000	0.000
80.0	99.560	0.778	0.000	0.000	0.000

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CANDELA TABULATION - (Cont.)

82.5	70.003	0.778	0.000	0.000	0.000
85.0	41.224	0.778	0.000	0.000	0.000
87.5	14.001	0.000	0.000	0.000	0.000
90.0	0.000	0.000	0.000	0.000	0.000
92.5	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000
107.5	0.000	0.000	0.000	0.000	0.000
110.0	0.000	0.000	0.000	0.000	0.000
112.5	0.000	0.000	0.000	0.000	0.000
115.0	0.000	0.000	0.000	0.000	0.000
117.5	0.000	0.000	0.000	0.000	0.000
120.0	0.000	0.000	0.000	0.000	0.000
122.5	0.000	0.000	0.000	0.000	0.000
125.0	0.000	0.000	0.000	0.000	0.000
127.5	0.000	0.000	0.000	0.000	0.000
130.0	0.000	0.000	0.000	0.000	0.000
132.5	0.000	0.000	0.000	0.000	0.000
135.0	0.000	0.000	0.000	0.000	0.000
137.5	0.000	0.000	0.000	0.000	0.000
140.0	0.000	0.000	0.000	0.000	0.000
142.5	0.000	0.000	0.000	0.000	0.000
145.0	0.000	0.000	0.000	0.000	0.000
147.5	0.000	0.000	0.000	0.000	0.000
150.0	0.000	0.000	0.000	0.000	0.000
152.5	0.000	0.000	0.000	0.000	0.000
155.0	0.000	0.000	0.000	0.000	0.000
157.5	0.000	0.000	0.000	0.000	0.000
160.0	0.000	0.000	0.000	0.000	0.000
162.5	0.000	0.000	0.000	0.000	0.000
165.0	0.000	0.000	0.000	0.000	0.000
167.5	0.000	0.000	0.000	0.000	0.000
170.0	0.000	0.000	0.000	0.000	0.000
172.5	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.000
177.5	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	321.70	N.A.	13.50
0-30	636.76	N.A.	26.80
0-40	988.01	N.A.	41.60
0-60	1684.12	N.A.	70.90
0-80	2168.39	N.A.	91.20
0-90	2284.00	N.A.	96.10
10-90	2195.39	N.A.	92.40
20-40	666.31	N.A.	28.00
20-50	1027.24	N.A.	43.20
40-70	977.04	N.A.	41.10
60-80	484.27	N.A.	20.40
70-80	203.34	N.A.	8.60
80-90	115.61	N.A.	4.90
90-110	70.95	N.A.	3.00
90-120	85.78	N.A.	3.60
90-130	92.10	N.A.	3.90
90-150	92.94	N.A.	3.90
90-180	92.94	N.A.	3.90
110-180	21.99	N.A.	0.90
0-180	2376.94	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	88.61
10-20	233.09
20-30	315.07
30-40	351.25
40-50	360.93
50-60	335.18
60-70	280.93
70-80	203.34
80-90	115.61
90-100	48.59
100-110	22.36
110-120	14.83
120-130	6.32
130-140	0.84
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

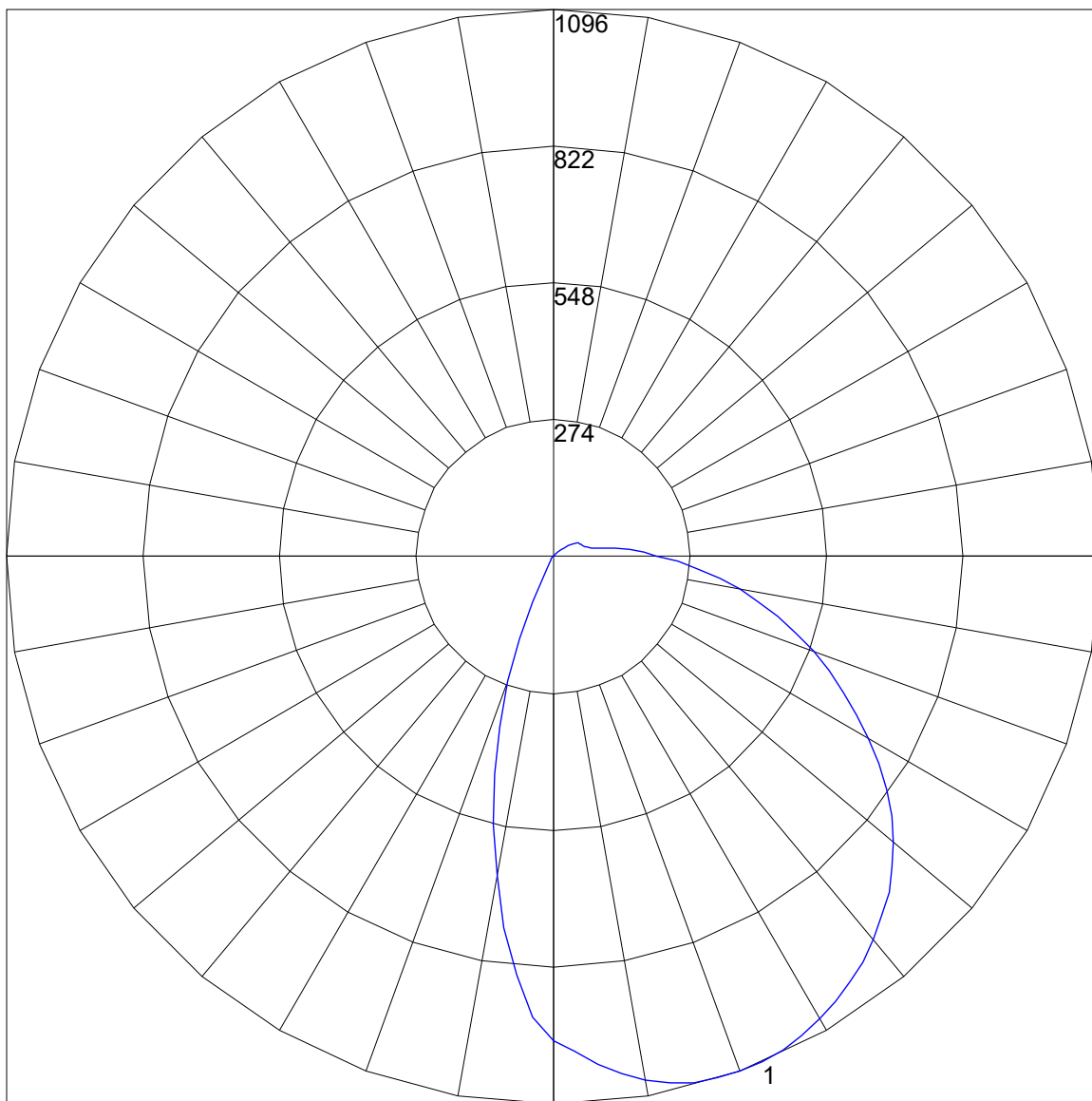
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96
1	106	101	96	92	103	98	94	90	93	90	86	89	86	83	84	82	80	78
2	96	88	80	74	93	85	79	73	81	76	71	77	73	68	74	70	66	64
3	88	77	68	62	85	75	67	61	71	65	59	68	62	58	65	60	56	54
4	80	68	59	52	78	67	58	52	63	56	50	61	54	49	58	53	48	46
5	74	61	52	45	72	60	51	45	57	49	44	55	48	43	52	47	42	40
6	69	55	46	39	66	54	45	39	52	44	38	50	43	38	48	42	37	35
7	64	50	41	35	62	49	41	35	47	40	34	45	39	34	44	38	33	31
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	40	34	30	28
9	56	42	34	28	54	41	34	28	40	33	28	39	32	27	37	31	27	25
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	35	29	25	23

POLAR GRAPH



Maximum Candela = 1095.94 Located At Horizontal Angle = 0, Vertical Angle = 20
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)