

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-6D-4FT-H-8-35-ITL86714.003.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]ITL86714.003 Family Correlation File
[TESTLAB]INDEPENDENT TESTING LABORATORIES, INC.
[TESTDATE]02/11/16
[ISSUE DATE]03/30/16
[MANUFAC]FINELITE, INC.
[LUMCAT]HP-WS-4W-6D-4ft-H-8-35
[OTHER]INPUT ELECTRICAL: 120.0 VOLTS, 28.3 WATTS
[OTHER]INPUT ELECTRICAL: 277.0 VOLTS, 29.2 WATTS
[ABSOLUTE LUMENS]2325
[OTHER]see www.finelite.com for source file ITL86714. 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	2325
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	82
Total Luminaire Watts	28.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.70
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.14
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.32 ft
Luminous Width (90-270)	4.00 ft
Luminous Height	0.53 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	4449	4863	5933
55	3537	3902	5247
65	2749	2969	4446
75	2022	2118	3407
85	1326	1308	1544

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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	962.981	962.981	962.981	962.981	962.981	962.981	962.981	962.981	962.981	962.981
2.5	991.761	993.317	990.984	987.872	983.983	978.538	973.093	969.982	966.092	962.203
5.0	1037.655	1036.877	1035.321	1029.098	1021.320	1009.652	994.873	981.649	967.648	959.092
7.5	1074.992	1075.769	1074.214	1064.102	1052.434	1034.543	1016.653	995.651	970.759	952.869
10.0	1113.106	1111.551	1109.217	1096.771	1079.659	1057.101	1032.988	1004.985	972.315	943.535
12.5	1143.443	1141.887	1137.998	1123.996	1102.994	1076.547	1045.433	1009.652	969.982	933.423
15.0	1166.000	1164.445	1160.555	1146.554	1122.441	1091.327	1055.545	1011.208	966.092	920.977
17.5	1182.335	1180.780	1175.335	1160.555	1135.664	1101.439	1060.990	1008.874	956.758	906.198
20.0	1194.003	1191.669	1186.224	1170.667	1143.443	1106.884	1061.768	1005.763	945.868	889.085
22.5	1198.670	1197.114	1190.892	1173.001	1145.776	1106.106	1058.657	997.984	932.645	870.417
25.0	1199.448	1197.114	1190.114	1171.445	1143.443	1102.216	1050.878	987.872	917.088	848.637
27.5	1194.781	1193.225	1185.447	1166.000	1137.220	1094.438	1040.766	973.871	899.975	826.079
30.0	1184.669	1182.335	1175.335	1155.888	1125.552	1082.770	1025.987	957.536	879.751	802.743
32.5	1166.778	1166.000	1159.000	1139.553	1110.773	1066.435	1008.874	938.868	858.749	776.296
35.0	1141.887	1140.331	1134.886	1116.996	1090.549	1047.767	987.872	917.088	833.857	747.516
37.5	1109.995	1108.439	1103.772	1088.215	1064.880	1024.431	964.537	893.752	808.966	717.958
40.0	1072.658	1071.880	1066.435	1052.434	1033.765	996.429	938.090	867.305	781.741	686.843
42.5	1031.432	1031.432	1026.765	1012.763	994.873	964.537	909.309	839.302	753.739	654.951
45.0	993.317	988.650	983.983	970.759	953.647	927.200	877.417	808.966	722.625	622.282
47.5	948.202	945.090	940.423	926.422	908.531	885.196	842.414	777.074	692.288	588.056
50.0	903.086	899.975	895.308	880.529	864.194	840.858	801.966	743.627	658.063	553.831
52.5	856.415	854.082	848.637	833.857	816.745	794.965	758.406	707.068	624.615	520.383
55.0	810.522	807.410	802.743	787.186	769.296	746.738	712.513	668.953	590.390	486.158
57.5	765.406	761.517	756.850	740.515	721.847	699.289	665.064	627.727	554.609	451.932
60.0	718.735	715.624	710.179	693.066	673.620	650.284	617.615	583.389	519.605	417.707
62.5	673.620	669.731	664.286	647.951	623.837	600.502	568.610	534.384	482.268	383.481
65.0	626.949	623.837	616.059	602.058	577.166	553.053	520.383	487.713	442.598	348.478
67.5	581.833	578.722	570.943	555.386	532.051	505.604	472.934	440.264	401.372	312.697
70.0	535.940	532.829	525.050	510.271	488.491	459.711	427.041	392.815	357.812	279.249
72.5	490.047	487.713	479.935	464.378	443.376	415.373	381.925	346.922	312.697	244.246
75.0	444.931	441.820	434.819	420.040	399.038	371.813	338.366	301.807	268.359	210.020
77.5	400.594	399.038	389.704	375.703	355.478	329.031	296.362	259.025	224.021	175.795
80.0	357.812	355.478	346.144	333.699	314.252	288.583	257.469	219.354	182.017	140.791
82.5	315.030	312.697	303.362	292.472	273.026	248.913	218.576	181.240	143.903	105.010
85.0	272.248	269.915	260.580	251.246	232.578	208.464	180.462	147.014	108.899	67.673
87.5	228.689	227.133	220.910	209.242	191.352	168.794	142.347	111.233	77.007	32.670
90.0	185.129	183.573	178.128	167.238	149.348	127.568	103.454	75.452	45.893	14.779
92.5	154.015	153.237	147.792	136.902	121.345	102.676	78.563	52.116	25.669	5.445
95.0	126.012	125.234	119.789	108.899	94.898	76.230	55.228	31.892	14.779	2.334
97.5	99.565	98.009	93.342	84.008	70.785	54.450	35.003	22.558	11.668	0.778
100.0	76.230	73.896	69.229	61.450	49.783	36.559	28.781	20.224	10.112	0.000
102.5	54.450	52.894	49.783	43.560	38.893	33.448	25.669	17.891	8.556	0.000
105.0	42.782	42.782	41.226	39.670	35.781	31.114	24.113	16.335	7.001	0.000
107.5	40.448	39.670	38.893	36.559	33.448	28.781	22.558	15.557	4.667	0.000
110.0	38.115	38.115	36.559	35.003	31.892	27.225	21.002	14.779	2.334	0.000
112.5	36.559	35.781	35.003	33.448	30.336	25.669	20.224	14.001	0.778	0.000
115.0	34.225	34.225	33.448	31.892	28.781	24.891	19.446	10.112	0.000	0.000
117.5	32.670	32.670	31.892	30.336	28.003	24.113	18.668	7.001	0.000	0.000
120.0	31.892	31.892	31.114	29.558	27.225	23.336	17.891	3.889	0.000	0.000
122.5	30.336	30.336	29.558	28.003	25.669	21.780	12.446	2.334	0.000	0.000
125.0	29.558	29.558	28.781	27.225	24.891	21.002	8.556	0.000	0.000	0.000
127.5	28.003	28.003	27.225	26.447	23.336	15.557	5.445	0.000	0.000	0.000
130.0	27.225	27.225	26.447	24.891	21.002	10.890	2.334	0.000	0.000	0.000
132.5	26.447	26.447	25.669	22.558	14.779	7.001	0.000	0.000	0.000	0.000

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CANDELA TABULATION - (Cont.)

135.0	24.113	24.113	21.780	16.335	10.112	3.889	0.000	0.000	0.000	0.000
137.5	17.113	17.113	14.779	10.890	6.223	0.778	0.000	0.000	0.000	0.000
140.0	11.668	11.668	10.112	7.001	2.334	0.000	0.000	0.000	0.000	0.000
142.5	7.001	7.001	5.445	3.111	0.000	0.000	0.000	0.000	0.000	0.000
145.0	3.111	3.111	1.556	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	962.981	962.981	962.981	962.981	962.981
2.5	961.425	943.535	910.865	889.863	885.974
5.0	956.758	898.419	825.301	771.629	757.628
7.5	948.980	848.637	726.514	642.506	618.392
10.0	939.645	791.853	624.615	513.382	479.157
12.5	927.200	729.625	522.717	387.370	345.366
15.0	911.643	666.619	421.596	266.025	219.354
17.5	893.752	602.058	324.364	154.015	105.010
20.0	873.528	537.496	231.800	56.783	20.224
22.5	850.192	472.934	145.458	16.335	9.334
25.0	824.523	409.928	72.340	10.112	5.445
27.5	798.854	348.478	24.113	6.223	3.111
30.0	769.296	288.583	15.557	4.667	1.556
32.5	740.515	231.022	11.668	2.334	0.000
35.0	707.068	176.572	8.556	2.334	0.000
37.5	675.176	125.234	6.223	1.556	0.000
40.0	640.172	78.563	4.667	1.556	0.000
42.5	607.503	38.893	3.111	0.778	0.000
45.0	570.166	24.891	2.334	0.778	0.000
47.5	537.496	19.446	1.556	0.000	0.000
50.0	499.381	15.557	0.778	0.000	0.000
52.5	464.378	11.668	0.778	0.000	0.000
55.0	429.374	8.556	0.000	0.000	0.000
57.5	395.927	7.001	0.000	0.000	0.000
60.0	360.146	4.667	0.000	0.000	0.000
62.5	324.364	3.111	0.000	0.000	0.000
65.0	289.361	2.334	0.000	0.000	0.000
67.5	255.135	0.778	0.000	0.000	0.000
70.0	221.688	0.778	0.000	0.000	0.000
72.5	189.018	0.000	0.000	0.000	0.000
75.0	157.904	0.000	0.000	0.000	0.000
77.5	126.790	0.000	0.000	0.000	0.000
80.0	97.232	0.000	0.000	0.000	0.000

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CANDELA TABULATION - (Cont.)

82.5	68.451	0.000	0.000	0.000	0.000
85.0	40.448	0.000	0.000	0.000	0.000
87.5	12.446	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	303.24	N.A.	13.00
0-30	602.41	N.A.	25.90
0-40	957.48	N.A.	41.20
0-60	1665.51	N.A.	71.60
0-80	2142.69	N.A.	92.10
0-90	2250.07	N.A.	96.80
10-90	2164.31	N.A.	93.10
20-40	654.24	N.A.	28.10
20-50	1021.22	N.A.	43.90
40-70	988.15	N.A.	42.50
60-80	477.18	N.A.	20.50
70-80	197.06	N.A.	8.50
80-90	107.38	N.A.	4.60
90-110	54.57	N.A.	2.30
90-120	64.74	N.A.	2.80
90-130	71.68	N.A.	3.10
90-150	75.24	N.A.	3.20
90-180	75.24	N.A.	3.20
110-180	20.66	N.A.	0.90
0-180	2325.31	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

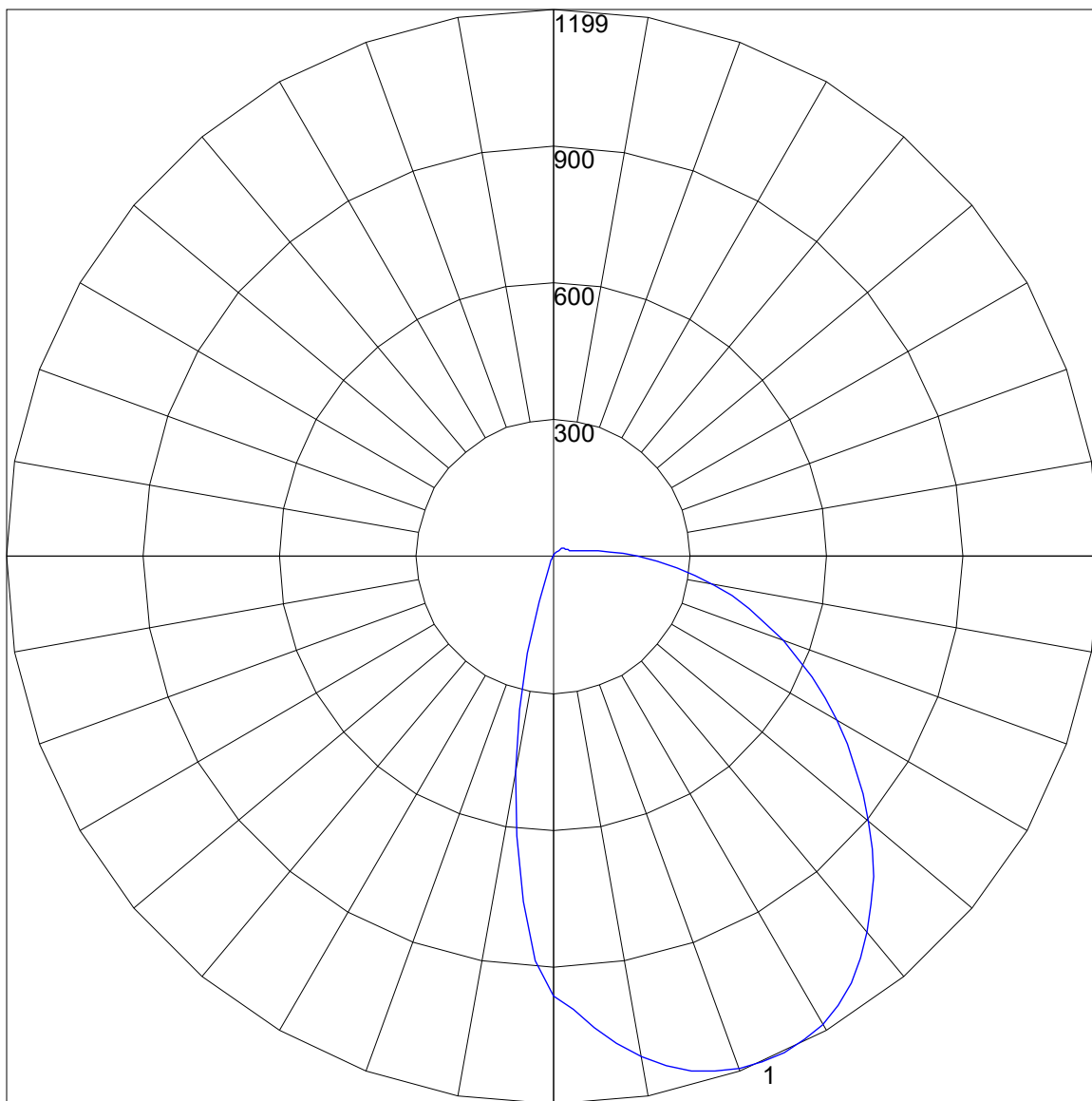
Zone	Lumens
0-10	85.76
10-20	217.48
20-30	299.17
30-40	355.07
40-50	366.98
50-60	341.05
60-70	280.11
70-80	197.06
80-90	107.38
90-100	39.73
100-110	14.84
110-120	10.17
120-130	6.94
130-140	3.22
140-150	0.33
150-160	0.00
160-170	0.00
170-180	0.00

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	104	104	104	99	99	99	97
1	107	101	97	92	104	99	94	90	94	90	87	89	86	84	85	83	81	78
2	97	88	80	74	94	86	79	73	81	76	71	78	73	69	74	70	67	64
3	88	77	68	62	85	75	67	61	72	65	59	68	63	58	65	60	56	54
4	80	68	59	52	78	66	58	51	64	56	50	61	54	49	58	53	48	46
5	74	61	52	45	72	60	51	44	57	49	44	55	48	43	52	47	42	40
6	68	55	46	39	66	54	45	39	52	44	38	50	43	38	48	42	37	35
7	63	50	41	35	62	49	40	34	47	39	34	45	38	33	44	38	33	31
8	59	46	37	31	57	45	36	31	43	36	30	42	35	30	40	34	30	28
9	55	42	34	28	54	41	33	28	40	33	27	38	32	27	37	31	27	25
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

POLAR GRAPH



Maximum Candela = 1199.448 Located At Horizontal Angle = 0, Vertical Angle = 25
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)