

# 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-S-8-35-ITL86714.001.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]ITL86714.001 Family Correlation File

[TESTLAB]INDEPENDENT TESTING LABORATORIES, INC.

[TESTDATE]02/11/16

[ISSUEDATE]03/30/16

[MANUFAC]FINELITE, INC.

[LUMCAT]HP-WS-4W-6D-4ft-S-8-35

[OTHER]INPUT ELECTRICAL: 120.0 VOLTS, 14.5 WATTS

[OTHER]INPUT ELECTRICAL: 277.0 VOLTS, 16.0 WATTS

[ABSOLUTE]LUMENS]1224

[OTHER]see [www.finelite.com](http://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](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	1224
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	84
Total Luminaire Watts	14.5
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	2342	2560	3123
55	1862	2054	2762
65	1447	1563	2341
75	1064	1115	1794
85	698	688	813

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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	506.963	506.963	506.963	506.963	506.963	506.963	506.963	506.963	506.963	506.963
2.5	522.114	522.933	521.705	520.067	518.019	515.153	512.286	510.648	508.601	506.553
5.0	546.275	545.865	545.046	541.770	537.675	531.533	523.752	516.791	509.420	504.915
7.5	565.931	566.341	565.522	560.198	554.056	544.637	535.218	524.162	511.058	501.639
10.0	585.997	585.178	583.949	577.397	568.388	556.513	543.818	529.076	511.877	496.725
12.5	601.967	601.148	599.101	591.730	580.673	566.750	550.370	531.533	510.648	491.402
15.0	613.843	613.024	610.976	603.605	590.911	574.531	555.694	532.352	508.601	484.850
17.5	622.442	621.623	618.757	610.976	597.872	579.854	558.560	531.123	503.687	477.069
20.0	628.585	627.356	624.490	616.300	601.967	582.721	558.970	529.485	497.954	468.060
22.5	631.042	630.223	626.947	617.528	603.196	582.311	557.332	525.390	490.992	458.232
25.0	631.451	630.223	626.537	616.709	601.967	580.264	553.237	520.067	482.802	446.766
27.5	628.994	628.175	624.080	613.843	598.691	576.169	547.913	512.696	473.793	434.891
30.0	623.671	622.442	618.757	608.519	592.549	570.026	540.132	504.096	463.146	422.606
32.5	614.252	613.843	610.157	599.920	584.768	561.427	531.123	494.268	452.090	408.682
35.0	601.148	600.329	597.463	588.044	574.121	551.599	520.067	482.802	438.986	393.531
37.5	584.359	583.540	581.083	572.893	560.608	539.313	507.782	470.517	425.882	377.970
40.0	564.703	564.293	561.427	554.056	544.227	524.571	493.859	456.594	411.549	361.590
42.5	542.999	542.999	540.542	533.171	523.752	507.782	478.707	441.852	396.807	344.800
45.0	522.933	520.476	518.019	511.058	502.049	488.126	461.918	425.882	380.427	327.601
47.5	499.182	497.544	495.087	487.716	478.298	466.013	443.490	409.092	364.456	309.583
50.0	475.431	473.793	471.336	463.556	454.956	442.671	422.196	391.483	346.438	291.565
52.5	450.861	449.633	446.766	438.986	429.977	418.511	399.264	372.237	328.830	273.956
55.0	426.701	425.063	422.606	414.416	404.997	393.121	375.103	352.171	310.812	255.938
57.5	402.949	400.902	398.445	389.845	380.017	368.142	350.124	330.468	291.975	237.920
60.0	378.379	376.741	373.875	364.866	354.628	342.343	325.144	307.126	273.547	219.902
62.5	354.628	352.581	349.714	341.115	328.420	316.135	299.346	281.328	253.891	201.884
65.0	330.058	328.420	324.325	316.954	303.850	291.156	273.956	256.757	233.006	183.457
67.5	306.307	304.669	300.574	292.384	280.099	266.176	248.977	231.778	211.303	164.620
70.0	282.147	280.509	276.414	268.633	257.167	242.015	224.816	206.798	188.371	147.011
72.5	257.986	256.757	252.662	244.472	233.416	218.674	201.065	182.638	164.620	128.583
75.0	234.235	232.597	228.911	221.131	210.074	195.742	178.133	158.887	141.278	110.565
77.5	210.893	210.074	205.160	197.789	187.142	173.219	156.020	136.364	117.936	92.547
80.0	188.371	187.142	182.228	175.676	165.439	151.925	135.545	115.479	95.823	74.120
82.5	165.848	164.620	159.706	153.973	143.735	131.040	115.070	95.414	75.758	55.283
85.0	143.326	142.097	137.183	132.269	122.441	109.746	95.004	77.396	57.330	35.627
87.5	120.393	119.574	116.298	110.156	100.737	88.862	74.939	58.559	40.541	17.199
90.0	97.461	96.642	93.776	88.043	78.624	67.158	54.464	39.722	24.161	7.781
92.5	81.081	80.672	77.805	72.072	63.882	54.054	41.360	27.437	13.514	2.867
95.0	66.339	65.930	63.063	57.330	49.959	40.131	29.075	16.790	7.781	1.229
97.5	52.416	51.597	49.140	44.226	37.265	28.665	18.428	11.876	6.143	0.410
100.0	40.131	38.903	36.446	32.351	26.208	19.247	15.152	10.647	5.324	0.000
102.5	28.665	27.846	26.208	22.932	20.475	17.609	13.514	9.419	4.505	0.000
105.0	22.523	22.523	21.704	20.885	18.837	16.380	12.695	8.600	3.686	0.000
107.5	21.294	20.885	20.475	19.247	17.609	15.152	11.876	8.190	2.457	0.000
110.0	20.066	20.066	19.247	18.428	16.790	14.333	11.057	7.781	1.229	0.000
112.5	19.247	18.837	18.428	17.609	15.971	13.514	10.647	7.371	0.410	0.000
115.0	18.018	18.018	17.609	16.790	15.152	13.104	10.238	5.324	0.000	0.000
117.5	17.199	17.199	16.790	15.971	14.742	12.695	9.828	3.686	0.000	0.000
120.0	16.790	16.790	16.380	15.561	14.333	12.285	9.419	2.048	0.000	0.000
122.5	15.971	15.971	15.561	14.742	13.514	11.466	6.552	1.229	0.000	0.000
125.0	15.561	15.561	15.152	14.333	13.104	11.057	4.505	0.000	0.000	0.000
127.5	14.742	14.742	14.333	13.923	12.285	8.190	2.867	0.000	0.000	0.000
130.0	14.333	14.333	13.923	13.104	11.057	5.733	1.229	0.000	0.000	0.000
132.5	13.923	13.923	13.514	11.876	7.781	3.686	0.000	0.000	0.000	0.000

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

135.0	12.695	12.695	11.466	8.600	5.324	2.048	0.000	0.000	0.000	0.000
137.5	9.009	9.009	7.781	5.733	3.276	0.410	0.000	0.000	0.000	0.000
140.0	6.143	6.143	5.324	3.686	1.229	0.000	0.000	0.000	0.000	0.000
142.5	3.686	3.686	2.867	1.638	0.000	0.000	0.000	0.000	0.000	0.000
145.0	1.638	1.638	0.819	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	506.963	506.963	506.963	506.963	506.963
2.5	506.144	496.725	479.526	468.470	466.422
5.0	503.687	472.974	434.481	406.225	398.854
7.5	499.592	446.766	382.474	338.248	325.554
10.0	494.678	416.873	328.830	270.271	252.253
12.5	488.126	384.112	275.185	203.932	181.819
15.0	479.936	350.943	221.950	140.050	115.479
17.5	470.517	316.954	170.762	81.081	55.283
20.0	459.870	282.966	122.031	29.894	10.647
22.5	447.585	248.977	76.577	8.600	4.914
25.0	434.072	215.807	38.084	5.324	2.867
27.5	420.558	183.457	12.695	3.276	1.638
30.0	404.997	151.925	8.190	2.457	0.819
32.5	389.845	121.622	6.143	1.229	0.000
35.0	372.237	92.957	4.505	1.229	0.000
37.5	355.447	65.930	3.276	0.819	0.000
40.0	337.020	41.360	2.457	0.819	0.000
42.5	319.821	20.475	1.638	0.410	0.000
45.0	300.165	13.104	1.229	0.410	0.000
47.5	282.966	10.238	0.819	0.000	0.000
50.0	262.900	8.190	0.410	0.000	0.000
52.5	244.472	6.143	0.410	0.000	0.000
55.0	226.045	4.505	0.000	0.000	0.000
57.5	208.436	3.686	0.000	0.000	0.000
60.0	189.599	2.457	0.000	0.000	0.000
62.5	170.762	1.638	0.000	0.000	0.000
65.0	152.335	1.229	0.000	0.000	0.000
67.5	134.316	0.410	0.000	0.000	0.000
70.0	116.708	0.410	0.000	0.000	0.000
72.5	99.509	0.000	0.000	0.000	0.000
75.0	83.129	0.000	0.000	0.000	0.000
77.5	66.749	0.000	0.000	0.000	0.000
80.0	51.188	0.000	0.000	0.000	0.000

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CANDELA TABULATION - (Cont.)

82.5	36.036	0.000	0.000	0.000	0.000
85.0	21.294	0.000	0.000	0.000	0.000
87.5	6.552	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	159.64	N.A.	13.00
0-30	317.14	N.A.	25.90
0-40	504.07	N.A.	41.20
0-60	876.81	N.A.	71.60
0-80	1128.02	N.A.	92.10
0-90	1184.55	N.A.	96.80
10-90	1139.4	N.A.	93.10
20-40	344.42	N.A.	28.10
20-50	537.62	N.A.	43.90
40-70	520.21	N.A.	42.50
60-80	251.21	N.A.	20.50
70-80	103.74	N.A.	8.50
80-90	56.53	N.A.	4.60
90-110	28.73	N.A.	2.30
90-120	34.09	N.A.	2.80
90-130	37.74	N.A.	3.10
90-150	39.61	N.A.	3.20
90-180	39.61	N.A.	3.20
110-180	10.88	N.A.	0.90
0-180	1224.16	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	45.15
10-20	114.49
20-30	157.50
30-40	186.93
40-50	193.20
50-60	179.55
60-70	147.47
70-80	103.74
80-90	56.53
90-100	20.92
100-110	7.81
110-120	5.36
120-130	3.65
130-140	1.69
140-150	0.18
150-160	0.00
160-170	0.00
170-180	0.00

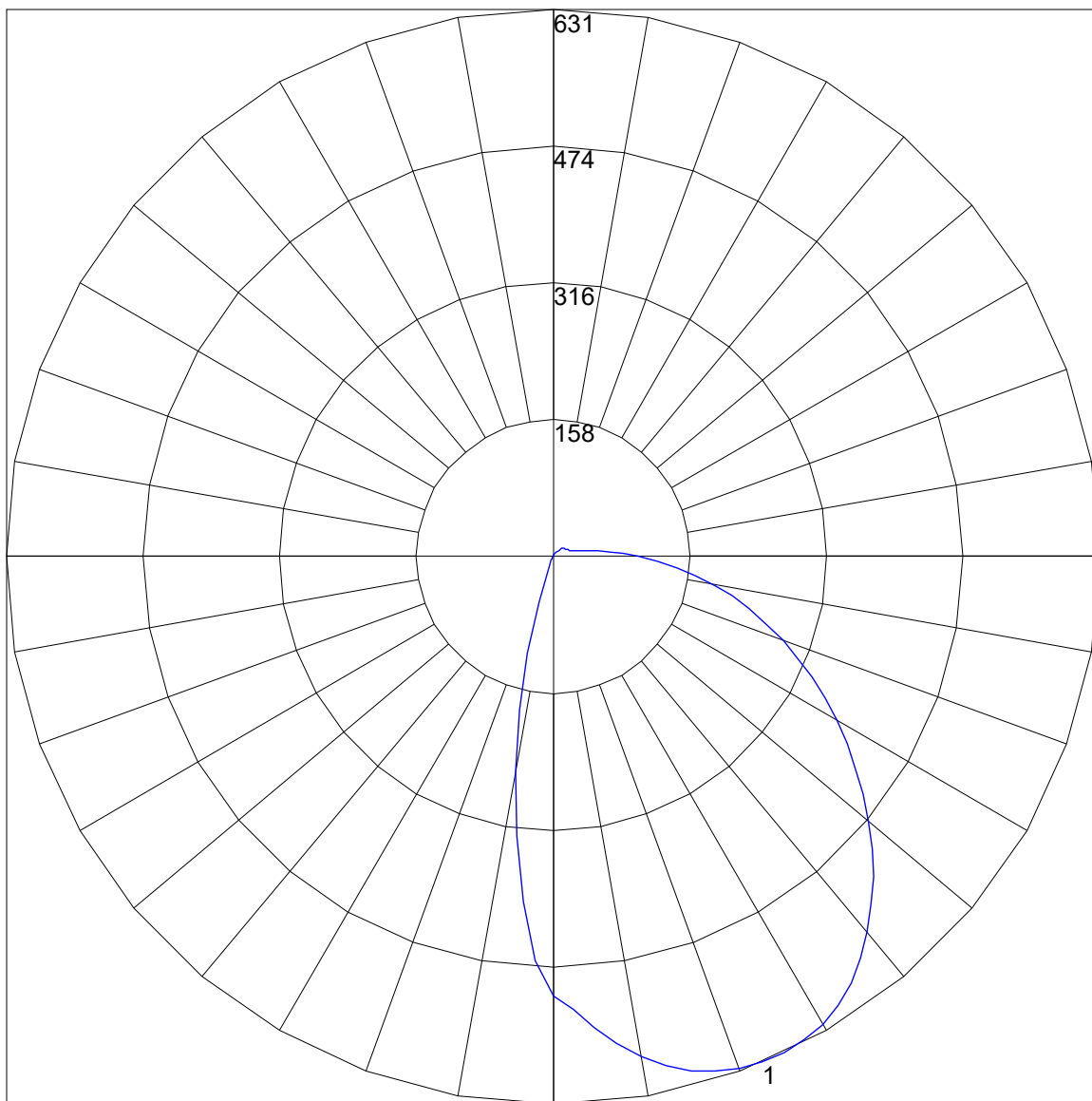
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	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 = 631.451 Located At Horizontal Angle = 0, Vertical Angle = 25  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)