

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-S-8-35-ITL86713.001.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]ITL86713.001 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-S-8-35
[OTHER]INPUT ELECTRICAL: 120.0 VOLTS, 14.5 WATTS
[OTHER]INPUT ELECTRICAL: 277.0 VOLTS, 16.0 WATTS
[ABSOLUTE LUMENS]1251
[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	1251
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	86
Total Luminaire Watts	14.5
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	2794	2842	3295
55	2407	2485	2960
65	1967	2053	2576
75	1531	1571	2051
85	1069	1061	1022

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	510.061	510.061	510.061	510.061	510.061	510.061	510.061	510.061	510.061	510.061
2.5	521.932	521.523	520.704	519.885	517.839	516.611	514.564	512.926	511.289	510.061
5.0	537.897	537.078	535.850	533.804	530.529	526.435	521.932	516.611	510.880	508.423
7.5	549.769	548.541	547.722	544.856	540.353	535.441	528.482	520.295	511.289	505.149
10.0	560.821	558.774	557.956	553.862	548.950	541.172	532.576	521.932	509.651	499.827
12.5	568.190	566.552	565.734	561.231	554.681	545.266	534.213	521.113	506.786	493.686
15.0	573.511	571.874	571.465	565.734	558.774	547.312	534.622	518.248	502.283	486.727
17.5	575.968	575.558	573.921	568.599	560.003	547.312	533.394	514.154	496.552	478.540
20.0	576.786	575.968	574.330	568.599	559.593	545.266	529.710	508.833	488.774	468.716
22.5	575.968	574.739	573.102	566.552	556.318	541.991	524.798	502.283	480.587	458.072
25.0	573.511	572.283	569.827	562.459	551.815	536.669	518.248	494.096	470.353	446.610
27.5	568.599	568.190	564.915	557.137	545.675	529.710	510.470	484.681	459.300	434.739
30.0	562.868	562.049	558.365	550.178	537.897	521.113	500.646	474.447	447.429	421.639
32.5	555.500	554.681	550.997	541.991	528.891	511.289	489.593	463.394	435.148	406.902
35.0	546.903	546.494	541.991	532.576	519.067	500.236	478.131	450.704	420.821	391.756
37.5	537.897	536.669	531.757	522.342	507.605	488.365	465.031	437.604	407.721	374.972
40.0	526.026	525.207	519.885	510.061	494.915	474.856	450.704	422.867	391.347	358.189
42.5	513.745	513.336	508.014	496.961	481.815	460.938	435.967	407.721	375.791	341.814
45.0	501.464	499.827	494.096	483.043	467.078	446.610	420.411	391.347	359.417	324.621
47.5	485.909	485.090	478.950	467.897	452.341	430.645	404.037	375.382	342.224	306.610
50.0	469.125	468.306	462.575	451.523	436.376	413.862	387.253	357.779	325.440	288.188
52.5	450.294	449.476	444.973	433.511	419.183	396.668	369.651	339.768	307.428	270.586
55.0	429.417	428.189	423.277	414.271	399.534	379.066	352.048	321.756	289.826	252.165
57.5	406.902	406.084	402.399	392.575	379.066	359.826	333.218	303.744	270.995	233.744
60.0	384.797	383.569	379.066	370.060	356.961	339.768	314.797	286.142	252.984	214.504
62.5	361.464	359.826	355.733	346.727	333.627	317.662	294.738	266.492	234.153	196.083
65.0	338.130	336.902	332.399	323.393	310.294	294.329	273.861	246.843	214.913	177.662
67.5	314.797	313.978	309.066	300.060	287.779	271.405	251.756	227.603	196.492	159.650
70.0	291.463	290.645	286.960	276.726	264.855	248.071	228.831	206.726	176.843	141.638
72.5	268.539	267.311	263.218	253.802	241.931	225.966	205.907	185.030	157.603	123.626
75.0	245.206	243.568	240.293	231.288	219.826	203.861	183.802	163.334	137.954	105.615
77.5	222.282	221.872	216.960	208.364	197.311	182.165	163.334	142.047	118.305	88.012
80.0	200.176	198.948	194.445	186.258	175.205	160.878	141.229	121.580	97.837	70.819
82.5	177.662	176.434	171.931	164.562	154.328	140.001	121.170	101.930	79.006	53.217
85.0	153.509	154.738	150.235	142.866	131.813	119.123	101.112	83.100	60.994	35.614
87.5	131.404	132.223	128.129	120.761	110.527	98.246	82.281	64.269	44.620	18.830
90.0	108.480	109.299	105.615	98.655	88.421	76.959	61.813	45.029	27.836	9.415
92.5	95.790	94.562	91.696	84.737	75.731	63.860	49.532	32.749	17.193	3.684
95.0	80.644	79.416	76.550	70.000	61.404	49.942	36.842	22.105	10.643	1.228
97.5	66.316	65.497	63.041	56.491	48.714	38.480	26.199	17.193	8.597	0.819
100.0	53.626	52.807	50.351	44.620	37.252	29.064	22.515	15.146	6.140	0.409
102.5	42.164	41.345	39.298	35.205	31.521	27.018	20.877	13.918	3.275	0.000
105.0	36.842	36.433	35.205	33.158	29.883	25.380	19.649	11.462	1.637	0.000
107.5	35.205	34.795	33.977	31.930	28.655	24.152	18.421	8.187	0.819	0.000
110.0	33.567	33.567	32.339	30.702	27.427	22.924	15.556	5.322	0.409	0.000
112.5	32.339	32.339	31.111	29.474	26.199	21.696	11.871	2.866	0.409	0.000
115.0	31.111	31.111	30.293	28.246	25.380	17.193	8.187	1.228	0.409	0.000
117.5	30.293	30.293	29.064	27.018	21.287	13.509	5.731	0.819	0.409	0.000
120.0	29.064	28.655	27.018	22.515	16.784	9.825	3.275	0.409	0.409	0.000
122.5	24.152	24.152	22.105	18.012	12.690	6.550	1.228	0.409	0.000	0.000
125.0	19.240	18.830	17.193	13.918	9.006	3.684	0.409	0.409	0.000	0.000
127.5	14.737	14.328	13.099	9.825	5.731	1.637	0.409	0.409	0.000	0.000
130.0	10.643	10.234	9.006	6.550	2.866	0.409	0.409	0.409	0.000	0.000
132.5	6.959	6.959	5.731	3.275	0.409	0.000	0.000	0.000	0.000	0.000

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CANDELA TABULATION - (Cont.)

135.0	3.684	3.684	2.866	0.819	0.000	0.000	0.000	0.000	0.000	0.000
137.5	0.819	0.819	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	510.061	510.061	510.061	510.061	510.061
2.5	509.651	505.149	496.961	489.184	485.909
5.0	507.195	491.230	466.669	449.476	443.335
7.5	502.692	471.990	432.283	402.809	394.212
10.0	498.189	451.523	394.622	354.095	341.405
12.5	491.640	428.189	355.733	307.838	289.007
15.0	483.862	403.218	316.025	259.533	237.837
17.5	474.037	376.610	276.726	211.638	187.486
20.0	462.985	349.183	237.019	165.381	139.182
22.5	450.704	321.756	198.948	121.989	94.152
25.0	437.604	294.329	161.697	81.053	52.807
27.5	424.096	266.492	126.082	44.620	21.287
30.0	408.949	239.065	92.106	14.328	6.959
32.5	392.575	212.048	60.994	6.959	4.503
35.0	376.201	185.439	32.749	4.503	2.866
37.5	359.007	159.650	11.462	3.275	1.637
40.0	341.405	134.679	7.368	2.047	0.819
42.5	322.984	110.117	5.322	1.228	0.000
45.0	304.972	86.784	3.684	0.819	0.000
47.5	285.732	64.679	2.456	0.409	0.000
50.0	267.311	43.801	1.637	0.409	0.000
52.5	248.890	24.562	0.819	0.409	0.000
55.0	230.060	10.643	0.409	0.000	0.000
57.5	211.229	7.368	0.409	0.000	0.000
60.0	192.808	4.912	0.409	0.000	0.000
62.5	173.977	3.275	0.409	0.000	0.000
65.0	155.966	2.047	0.000	0.000	0.000
67.5	137.954	1.228	0.000	0.000	0.000
70.0	119.942	0.409	0.000	0.000	0.000
72.5	102.340	0.409	0.000	0.000	0.000
75.0	85.147	0.409	0.000	0.000	0.000
77.5	68.363	0.409	0.000	0.000	0.000
80.0	52.398	0.409	0.000	0.000	0.000

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CANDELA TABULATION - (Cont.)

82.5	36.842	0.409	0.000	0.000	0.000
85.0	21.696	0.409	0.000	0.000	0.000
87.5	7.368	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	169.31	N.A.	13.50
0-30	335.12	N.A.	26.80
0-40	519.98	N.A.	41.60
0-60	886.34	N.A.	70.90
0-80	1141.21	N.A.	91.20
0-90	1202.06	N.A.	96.10
10-90	1155.42	N.A.	92.40
20-40	350.68	N.A.	28.00
20-50	540.63	N.A.	43.20
40-70	514.21	N.A.	41.10
60-80	254.87	N.A.	20.40
70-80	107.02	N.A.	8.60
80-90	60.85	N.A.	4.90
90-110	37.34	N.A.	3.00
90-120	45.15	N.A.	3.60
90-130	48.47	N.A.	3.90
90-150	48.91	N.A.	3.90
90-180	48.91	N.A.	3.90
110-180	11.57	N.A.	0.90
0-180	1250.97	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	46.63
10-20	122.67
20-30	165.82
30-40	184.86
40-50	189.96
50-60	176.40
60-70	147.85
70-80	107.02
80-90	60.85
90-100	25.57
100-110	11.77
110-120	7.81
120-130	3.32
130-140	0.44
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

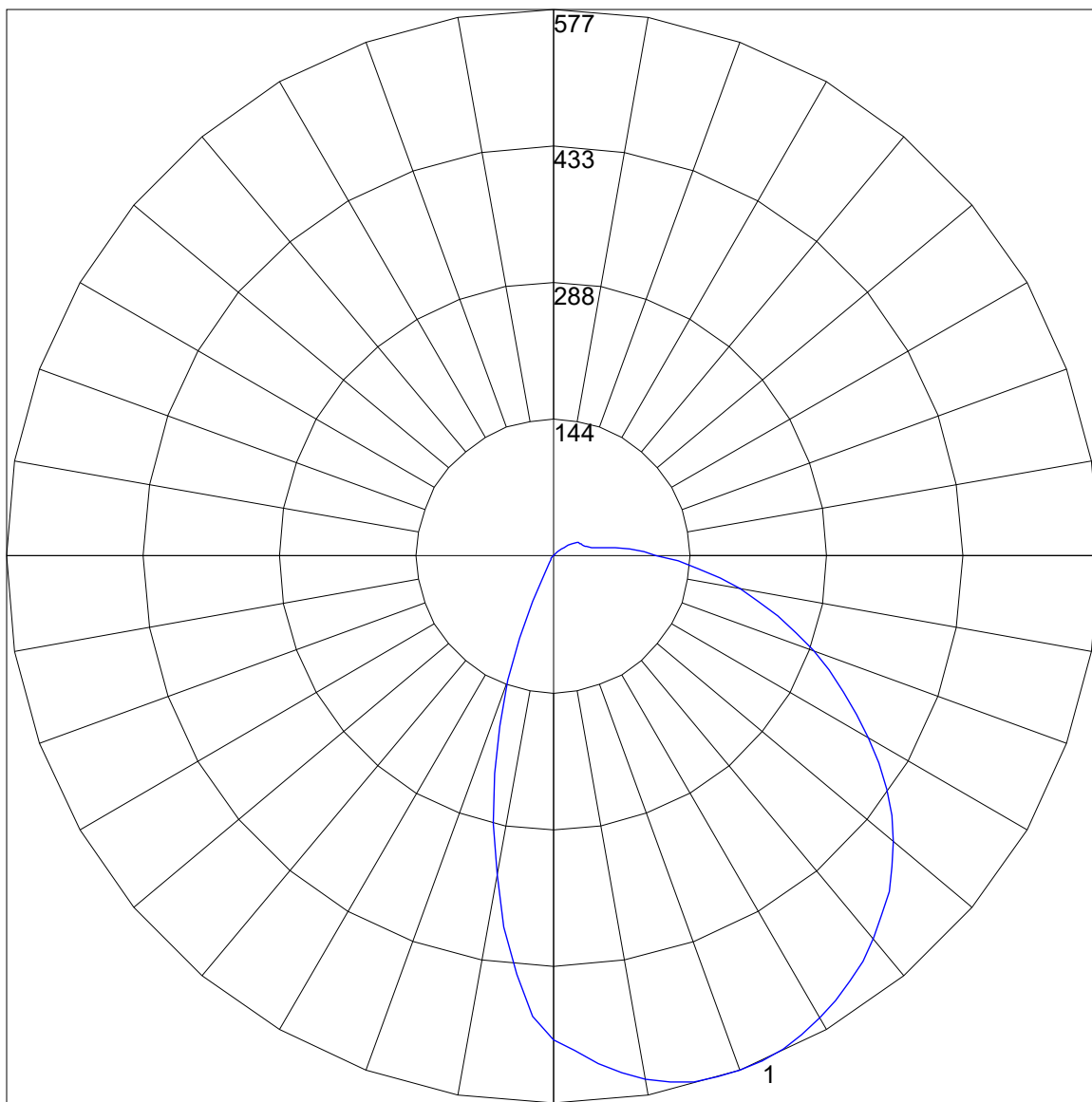
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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 = 576.786 Located At Horizontal Angle = 0, Vertical Angle = 20
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)