

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-2D-4FT-S-8-35-ITL86712.001.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]ITL86712.001 Family Correlation File
[TESTLAB]INDEPENDENT TESTING LABORATORIES, INC.
[TESTDATE]02/10/16
[ISSUEDATE]03/30/16
[MANUFAC]FINELITE, INC.
[LUMCAT]HP-WS-4W-2D-4ft-S-8-35
[OTHER]INPUT ELECTRICAL: 120.0 VOLTS, 14.5 WATTS
[OTHER]INPUT ELECTRICAL: 277.0 VOLTS, 16.0 WATTS
[ABSOLUTE]LUMENS]1268
[OTHER]see www.finelite.com for source file ITL86712. 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	1268
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	87
Total Luminaire Watts	14.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.54
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.24
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.32 ft
Luminous Width (90-270)	4.00 ft
Luminous Height	0.19 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3454	3377	3380
55	3103	3091	3086
65	2622	2667	2741
75	2098	2130	2277
85	1475	1461	1312

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	505.644	505.644	505.644	505.644	505.644	505.644	505.644	505.644	505.644	505.644
2.5	515.060	514.242	513.832	513.423	512.604	511.376	510.147	508.510	507.281	506.462
5.0	524.068	524.068	523.658	522.430	520.792	517.517	514.242	510.966	507.281	504.415
7.5	531.438	531.028	530.619	528.162	525.296	521.611	517.517	511.785	506.053	501.140
10.0	538.807	537.579	536.760	533.894	529.800	524.068	517.926	510.966	502.778	495.817
12.5	542.902	541.673	541.264	537.988	532.666	524.887	517.108	507.691	498.274	490.085
15.0	545.768	544.539	544.130	540.036	533.485	524.477	515.470	502.778	492.132	482.306
17.5	546.996	546.177	544.949	540.445	533.075	522.840	511.785	497.046	485.172	473.299
20.0	546.586	545.768	544.130	539.217	531.028	519.564	506.872	490.085	476.574	463.882
22.5	544.539	544.130	542.083	535.941	527.343	514.242	499.912	481.897	466.338	452.418
25.0	541.673	540.445	538.398	531.438	521.611	508.100	492.132	472.889	455.284	440.135
27.5	536.760	535.941	533.485	525.706	515.470	500.730	483.125	462.654	443.820	426.624
30.0	531.438	529.800	526.934	518.745	507.691	491.723	472.889	451.599	431.128	412.703
32.5	524.068	522.840	519.564	510.966	498.683	481.897	462.244	439.316	417.617	397.555
35.0	515.060	515.060	510.557	501.549	488.448	470.842	450.371	426.215	403.287	382.815
37.5	505.644	505.644	500.730	490.904	477.393	458.969	437.269	412.703	388.138	366.847
40.0	495.408	494.589	489.266	479.440	465.110	446.277	422.939	397.555	372.579	349.652
42.5	483.125	483.125	477.393	466.748	452.418	432.765	409.019	382.815	356.612	332.456
45.0	468.386	468.386	463.063	452.827	438.088	417.617	393.460	366.847	339.825	314.441
47.5	454.875	453.646	448.324	438.088	422.939	402.468	377.902	350.880	323.448	296.835
50.0	437.679	436.450	431.537	421.301	406.562	386.091	361.115	333.684	305.843	278.411
52.5	417.617	417.617	412.703	403.696	389.366	369.304	344.329	316.897	288.647	260.396
55.0	395.917	395.917	391.823	383.634	370.942	351.699	327.133	299.292	270.632	242.381
57.5	372.989	373.808	369.713	361.934	351.289	333.274	309.118	281.686	252.617	224.776
60.0	350.470	350.880	346.786	339.006	328.771	313.212	291.103	263.672	234.602	205.942
62.5	327.133	327.542	323.448	315.669	305.433	291.103	271.451	244.838	216.587	187.518
65.0	303.386	304.205	300.111	293.560	282.096	267.766	251.389	226.823	198.163	169.503
67.5	280.458	281.277	277.183	270.222	259.168	245.247	230.099	207.989	180.558	151.898
70.0	257.530	257.940	253.436	246.885	235.831	222.319	207.580	188.746	161.724	133.883
72.5	234.193	234.602	231.327	223.957	213.721	199.801	185.471	167.456	144.119	116.687
75.0	210.446	210.037	207.989	201.029	191.203	178.920	163.771	146.166	124.876	99.491
77.5	187.518	187.518	185.061	178.101	169.094	157.220	142.072	125.694	107.270	82.295
80.0	165.409	164.999	162.543	156.401	147.394	135.930	121.600	106.042	87.618	65.508
82.5	143.300	142.890	140.434	134.292	126.104	115.459	101.948	87.208	69.603	48.722
85.0	120.781	120.372	118.734	112.593	104.814	94.987	83.114	68.784	51.997	31.526
87.5	98.263	99.491	96.625	92.121	83.523	74.106	63.461	50.769	36.439	15.149
90.0	76.972	77.382	75.335	70.831	62.642	54.044	43.809	32.345	20.881	7.370
92.5	63.461	63.461	61.414	57.320	49.131	40.943	31.117	20.471	10.236	2.457
95.0	47.903	47.903	45.856	42.171	35.211	27.841	19.243	9.826	4.504	0.819
97.5	34.392	34.801	32.345	29.069	22.928	16.377	9.007	5.732	2.866	0.409
100.0	22.109	22.109	20.062	17.196	11.873	8.189	6.141	4.094	1.228	0.409
102.5	11.464	11.055	9.417	8.598	7.779	6.551	4.913	2.866	0.819	0.000
105.0	7.779	7.370	7.370	6.960	6.141	5.323	3.685	1.228	0.409	0.000
107.5	6.141	6.141	6.141	5.732	5.323	4.094	2.866	0.819	0.409	0.000
110.0	5.323	5.323	4.913	4.913	4.504	3.275	0.819	0.819	0.409	0.000
112.5	4.504	4.504	4.504	4.094	3.685	2.047	0.819	0.409	0.000	0.000
115.0	3.685	3.685	3.685	3.275	2.866	0.819	0.409	0.409	0.000	0.000
117.5	2.866	2.866	2.866	2.866	0.409	0.409	0.409	0.000	0.000	0.000
120.0	2.457	2.047	1.228	0.409	0.409	0.409	0.409	0.000	0.000	0.000
122.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
125.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
127.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
132.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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CANDELA TABULATION - (Cont.)

135.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
137.5	0.000	0.000	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	505.644	505.644	505.644	505.644	505.644
2.5	505.644	504.006	502.368	499.502	499.502
5.0	503.187	499.093	490.495	479.850	478.212
7.5	499.093	490.085	470.433	459.788	456.512
10.0	494.180	477.393	453.646	436.860	430.309
12.5	488.038	460.607	433.175	410.656	401.649
15.0	479.850	444.229	410.247	381.587	369.713
17.5	470.023	428.262	386.091	351.289	339.006
20.0	459.378	410.656	359.478	320.582	303.386
22.5	447.095	391.004	332.865	289.466	271.860
25.0	433.994	371.351	305.433	258.758	239.925
27.5	419.664	350.470	279.639	228.870	209.218
30.0	404.924	328.771	252.617	199.391	178.920
32.5	388.957	307.071	226.414	170.322	149.851
35.0	372.170	285.781	200.210	142.481	121.600
37.5	355.384	263.672	174.416	115.868	94.987
40.0	337.369	241.153	149.032	90.074	69.603
42.5	319.763	219.453	124.876	65.918	45.856
45.0	300.930	197.344	101.538	42.990	24.566
47.5	282.915	176.054	79.020	22.519	6.551
50.0	264.081	154.764	57.729	5.732	2.047
52.5	245.657	134.292	38.077	2.457	1.228
55.0	227.233	113.821	20.062	1.638	0.819
57.5	208.399	94.168	5.323	1.228	0.409
60.0	189.975	75.335	2.457	0.819	0.000
62.5	171.550	56.910	2.047	0.409	0.000
65.0	153.536	39.715	1.228	0.409	0.000
67.5	135.521	23.747	1.228	0.409	0.000
70.0	117.915	9.417	0.819	0.409	0.000
72.5	100.310	2.866	0.819	0.409	0.000
75.0	83.523	2.047	0.819	0.409	0.000
77.5	67.556	1.638	0.409	0.409	0.000
80.0	51.997	1.228	0.409	0.409	0.000

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CANDELA TABULATION - (Cont.)

82.5	36.439	0.819	0.409	0.409	0.000
85.0	21.290	0.409	0.409	0.000	0.000
87.5	7.370	0.409	0.409	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	179.13	N.A.	14.10
0-30	367.40	N.A.	29.00
0-40	579.82	N.A.	45.70
0-60	963.95	N.A.	76.00
0-80	1200.01	N.A.	94.60
0-90	1249.41	N.A.	98.50
10-90	1201.85	N.A.	94.80
20-40	400.68	N.A.	31.60
20-50	606.14	N.A.	47.80
40-70	524.83	N.A.	41.40
60-80	236.05	N.A.	18.60
70-80	95.36	N.A.	7.50
80-90	49.40	N.A.	3.90
90-110	17.68	N.A.	1.40
90-120	18.51	N.A.	1.50
90-130	18.55	N.A.	1.50
90-150	18.55	N.A.	1.50
90-180	18.55	N.A.	1.50
110-180	0.87	N.A.	0.10
0-180	1267.95	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	47.56
10-20	131.57
20-30	188.26
30-40	212.42
40-50	205.46
50-60	178.68
60-70	140.70
70-80	95.36
80-90	49.40
90-100	15.02
100-110	2.66
110-120	0.83
120-130	0.03
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

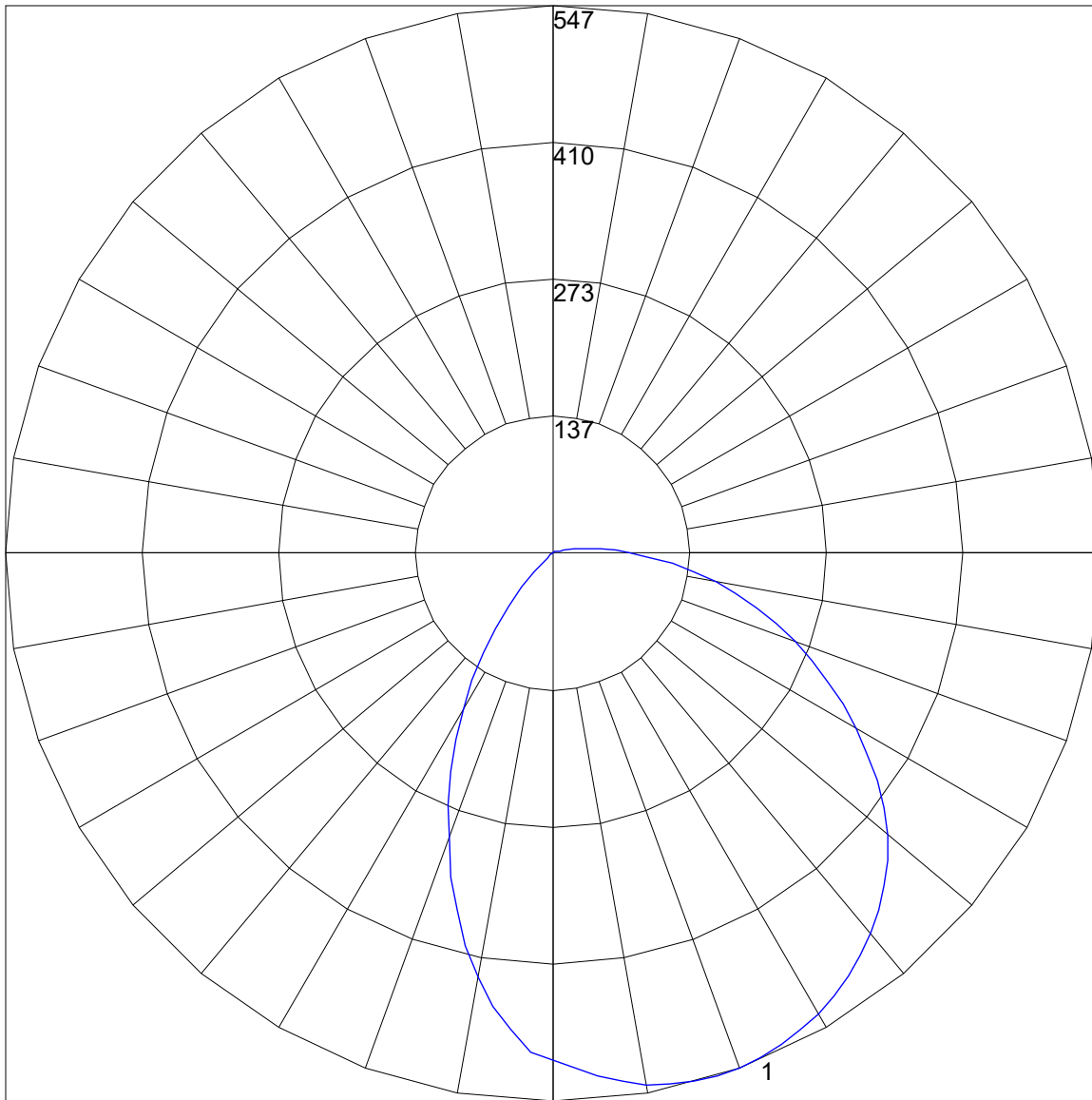
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	88	85	83	81
2	98	89	82	77	95	87	81	76	84	78	74	80	76	72	77	73	70	68
3	89	79	71	64	87	77	69	63	74	67	62	71	65	61	68	63	59	57
4	82	70	61	54	80	69	60	54	66	59	53	63	57	52	61	56	51	49
5	76	63	54	47	73	62	53	47	59	52	46	57	51	46	55	50	45	43
6	70	57	48	41	68	56	47	41	54	46	41	52	45	40	50	44	40	38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	42	36	32	30
9	57	44	35	30	55	43	35	30	42	35	30	40	34	29	39	33	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

POLAR GRAPH



Maximum Candela = 546.996 Located At Horizontal Angle = 0, Vertical Angle = 17.5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)