

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-B-8-TW-ITL86714.902.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]ITL86714.902 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-B-8-TW

[OTHER]ies file is based on 3500K; see luminaire tech sheet at www.finelite.com for lumen adjustment factors for other CCT's & CRI

[OTHER]INPUT ELECTRICAL: 120.0 VOLTS, 20.3 WATTS

[OTHER]INPUT ELECTRICAL: 277.0 VOLTS, 21.7 WATTS

[ABSOLUTE]LUMENS]1538

[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	1538
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	76
Total Luminaire Watts	20.3
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	2943	3217	3925
55	2340	2581	3471
65	1818	1964	2941
75	1337	1401	2254
85	877	865	1021

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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	637.017	637.017	637.017	637.017	637.017	637.017	637.017	637.017	637.017	637.017
2.5	656.056	657.085	655.541	653.483	650.910	647.308	643.706	641.648	639.075	636.503
5.0	686.414	685.900	684.871	680.754	675.609	667.890	658.114	649.366	640.104	634.444
7.5	711.113	711.627	710.598	703.909	696.191	684.356	672.521	658.628	642.163	630.328
10.0	736.326	735.297	733.753	725.520	714.200	699.278	683.327	664.803	643.192	624.153
12.5	756.394	755.364	752.792	743.530	729.637	712.142	691.560	667.890	641.648	617.464
15.0	771.316	770.286	767.714	758.452	742.501	721.918	698.249	668.919	639.075	609.231
17.5	782.121	781.092	777.490	767.714	751.248	728.608	701.851	667.376	632.901	599.455
20.0	789.840	788.296	784.694	774.403	756.394	732.210	702.365	665.318	625.697	588.135
22.5	792.927	791.898	787.781	775.947	757.937	731.695	700.307	660.172	616.950	575.785
25.0	793.441	791.898	787.267	774.917	756.394	729.122	695.162	653.483	606.658	561.378
27.5	790.354	789.325	784.179	771.316	752.277	723.977	688.472	644.221	595.338	546.456
30.0	783.665	782.121	777.490	764.626	744.559	716.258	678.696	633.415	581.960	531.019
32.5	771.830	771.316	766.685	753.821	734.782	705.453	667.376	621.066	568.067	513.524
35.0	755.364	754.335	750.733	738.899	721.404	693.103	653.483	606.658	551.601	494.486
37.5	734.268	733.239	730.151	719.860	704.424	677.667	638.046	591.222	535.136	474.933
40.0	709.569	709.055	705.453	696.191	683.842	659.143	620.551	573.727	517.126	454.351
42.5	682.298	682.298	679.211	669.949	658.114	638.046	601.513	555.203	498.602	433.254
45.0	657.085	653.997	650.910	642.163	630.843	613.348	580.416	535.136	478.020	411.643
47.5	627.241	625.182	622.095	612.833	600.998	585.562	557.261	514.039	457.953	389.002
50.0	597.397	595.338	592.251	582.474	571.669	556.232	530.505	491.913	435.312	366.362
52.5	566.523	564.980	561.378	551.601	540.281	525.874	501.690	467.729	413.186	344.236
55.0	536.165	534.106	531.019	520.728	508.893	493.971	471.331	442.516	390.546	321.596
57.5	506.321	503.748	500.660	489.855	477.506	462.584	439.943	415.245	366.877	298.956
60.0	475.447	473.389	469.787	458.467	445.603	430.167	408.555	385.915	343.722	276.315
62.5	445.603	443.031	439.429	428.623	412.672	397.235	376.139	353.498	319.023	253.675
65.0	414.730	412.672	407.526	398.264	381.799	365.847	344.236	322.625	292.781	230.520
67.5	384.886	382.828	377.682	367.391	351.955	334.460	312.848	291.237	265.510	206.850
70.0	354.527	352.469	347.324	337.547	323.140	304.101	282.490	259.849	236.695	184.725
72.5	324.169	322.625	317.479	307.188	293.295	274.772	252.646	229.491	206.850	161.570
75.0	294.325	292.266	287.635	277.859	263.966	245.957	223.831	199.647	177.521	138.929
77.5	264.995	263.966	257.791	248.529	235.151	217.656	196.045	171.346	148.191	116.289
80.0	236.695	235.151	228.976	220.743	207.880	190.899	170.317	145.104	120.406	93.134
82.5	208.394	206.850	200.676	193.472	180.608	164.657	144.590	119.891	95.192	69.465
85.0	180.094	178.550	172.375	166.201	153.851	137.900	119.376	97.251	72.037	44.766
87.5	151.279	150.250	146.133	138.415	126.580	111.658	94.163	73.581	50.941	21.611
90.0	122.464	121.435	117.833	110.629	98.794	84.387	68.436	49.912	30.359	9.777
92.5	101.882	101.367	97.765	90.561	80.270	67.921	51.970	34.475	16.980	3.602
95.0	83.358	82.843	79.241	72.037	62.776	50.426	36.533	21.097	9.777	1.544
97.5	65.863	64.834	61.746	55.572	46.824	36.019	23.155	14.922	7.718	0.515
100.0	50.426	48.883	45.795	40.650	32.931	24.184	19.038	13.378	6.689	0.000
102.5	36.019	34.990	32.931	28.815	25.728	22.126	16.980	11.835	5.660	0.000
105.0	28.300	28.300	27.271	26.242	23.669	20.582	15.951	10.806	4.631	0.000
107.5	26.757	26.242	25.728	24.184	22.126	19.038	14.922	10.291	3.087	0.000
110.0	25.213	25.213	24.184	23.155	21.097	18.009	13.893	9.777	1.544	0.000
112.5	24.184	23.669	23.155	22.126	20.068	16.980	13.378	9.262	0.515	0.000
115.0	22.640	22.640	22.126	21.097	19.038	16.466	12.864	6.689	0.000	0.000
117.5	21.611	21.611	21.097	20.068	18.524	15.951	12.349	4.631	0.000	0.000
120.0	21.097	21.097	20.582	19.553	18.009	15.437	11.835	2.573	0.000	0.000
122.5	20.068	20.068	19.553	18.524	16.980	14.407	8.233	1.544	0.000	0.000
125.0	19.553	19.553	19.038	18.009	16.466	13.893	5.660	0.000	0.000	0.000
127.5	18.524	18.524	18.009	17.495	15.437	10.291	3.602	0.000	0.000	0.000
130.0	18.009	18.009	17.495	16.466	13.893	7.204	1.544	0.000	0.000	0.000
132.5	17.495	17.495	16.980	14.922	9.777	4.631	0.000	0.000	0.000	0.000

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CANDELA TABULATION - (Cont.)

135.0	15.951	15.951	14.407	10.806	6.689	2.573	0.000	0.000	0.000	0.000
137.5	11.320	11.320	9.777	7.204	4.116	0.515	0.000	0.000	0.000	0.000
140.0	7.718	7.718	6.689	4.631	1.544	0.000	0.000	0.000	0.000	0.000
142.5	4.631	4.631	3.602	2.058	0.000	0.000	0.000	0.000	0.000	0.000
145.0	2.058	2.058	1.029	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	637.017	637.017	637.017	637.017	637.017
2.5	635.988	624.153	602.542	588.649	586.076
5.0	632.901	594.309	545.941	510.437	501.175
7.5	627.755	561.378	480.593	425.021	409.070
10.0	621.581	523.815	413.186	339.605	316.965
12.5	613.348	482.651	345.780	256.248	228.462
15.0	603.057	440.972	278.888	175.977	145.104
17.5	591.222	398.264	214.569	101.882	69.465
20.0	577.843	355.556	153.337	37.562	13.378
22.5	562.407	312.848	96.221	10.806	6.175
25.0	545.427	271.170	47.853	6.689	3.602
27.5	528.446	230.520	15.951	4.116	2.058
30.0	508.893	190.899	10.291	3.087	1.029
32.5	489.855	152.822	7.718	1.544	0.000
35.0	467.729	116.804	5.660	1.544	0.000
37.5	446.632	82.843	4.116	1.029	0.000
40.0	423.477	51.970	3.087	1.029	0.000
42.5	401.866	25.728	2.058	0.515	0.000
45.0	377.168	16.466	1.544	0.515	0.000
47.5	355.556	12.864	1.029	0.000	0.000
50.0	330.343	10.291	0.515	0.000	0.000
52.5	307.188	7.718	0.515	0.000	0.000
55.0	284.033	5.660	0.000	0.000	0.000
57.5	261.908	4.631	0.000	0.000	0.000
60.0	238.238	3.087	0.000	0.000	0.000
62.5	214.569	2.058	0.000	0.000	0.000
65.0	191.414	1.544	0.000	0.000	0.000
67.5	168.774	0.515	0.000	0.000	0.000
70.0	146.648	0.515	0.000	0.000	0.000
72.5	125.036	0.000	0.000	0.000	0.000
75.0	104.454	0.000	0.000	0.000	0.000
77.5	83.872	0.000	0.000	0.000	0.000
80.0	64.319	0.000	0.000	0.000	0.000

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CANDELA TABULATION - (Cont.)

82.5	45.281	0.000	0.000	0.000	0.000
85.0	26.757	0.000	0.000	0.000	0.000
87.5	8.233	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	200.59	N.A.	13.00
0-30	398.50	N.A.	25.90
0-40	633.38	N.A.	41.20
0-60	1101.75	N.A.	71.60
0-80	1417.4	N.A.	92.10
0-90	1488.43	N.A.	96.80
10-90	1431.7	N.A.	93.10
20-40	432.78	N.A.	28.10
20-50	675.54	N.A.	43.90
40-70	653.67	N.A.	42.50
60-80	315.65	N.A.	20.50
70-80	130.36	N.A.	8.50
80-90	71.03	N.A.	4.60
90-110	36.10	N.A.	2.30
90-120	42.83	N.A.	2.80
90-130	47.42	N.A.	3.10
90-150	49.77	N.A.	3.20
90-180	49.77	N.A.	3.20
110-180	13.67	N.A.	0.90
0-180	1538.2	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	56.73
10-20	143.86
20-30	197.90
30-40	234.88
40-50	242.76
50-60	225.61
60-70	185.30
70-80	130.36
80-90	71.03
90-100	26.28
100-110	9.82
110-120	6.73
120-130	4.59
130-140	2.13
140-150	0.22
150-160	0.00
160-170	0.00
170-180	0.00

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

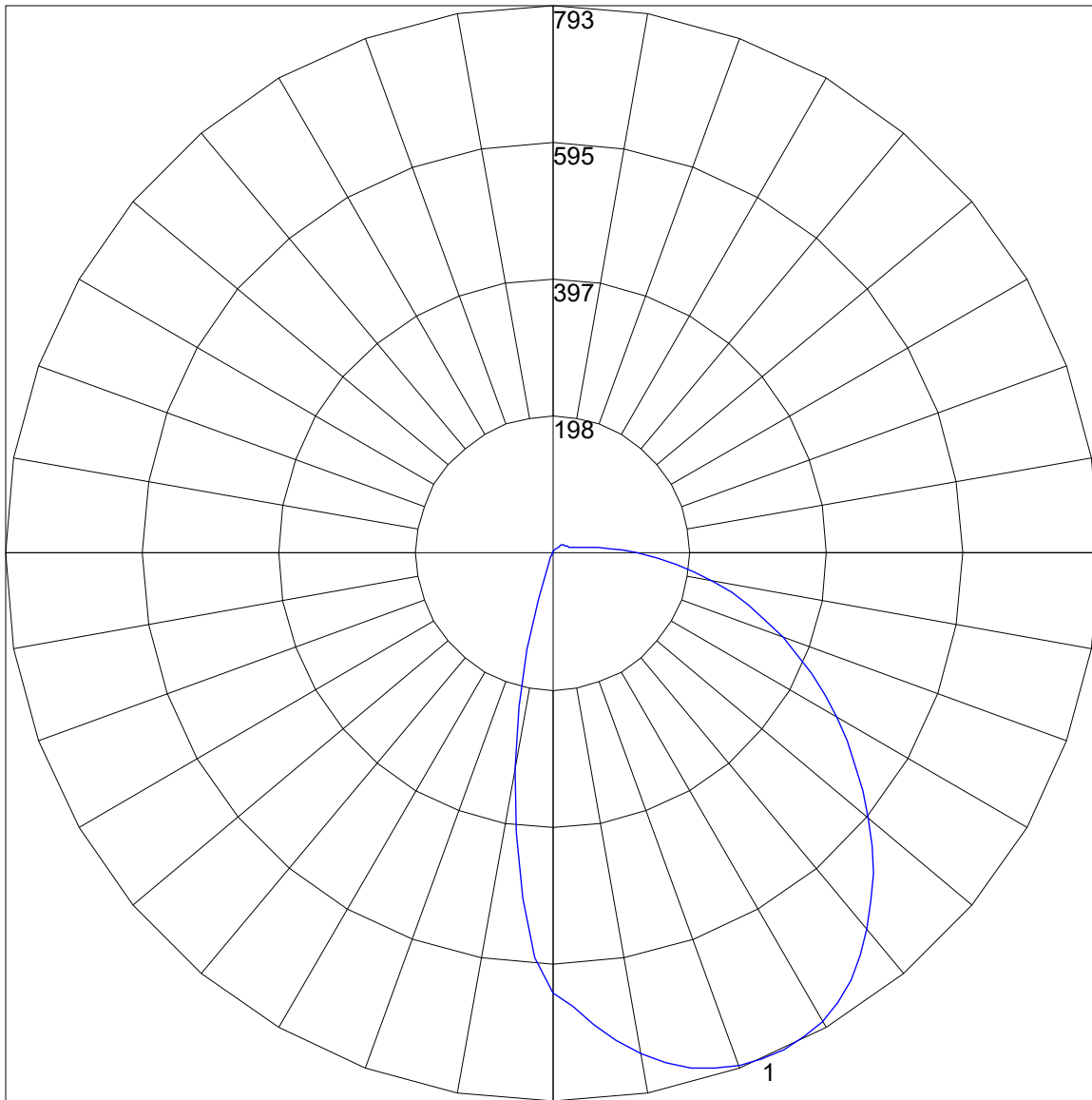
Effective Floor Cavity Reflectance 0.20

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

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POLAR GRAPH



Maximum Candela = 793.441 Located At Horizontal Angle = 0, Vertical Angle = 25
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)