

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-4-ID-4FT-B-B-835-ASY-ITL89988.002.IES

DESCRIPTION INFORMATION (From Photometric File)

[TEST]ITL89988.002 Family Correlation File
[TESTLAB]INDEPENDENT TESTING LABORATORIES, INC.
[TESTDATE]11/16/17
[ISSUEDATE]12/11/17
[MANUFAC]FINELITE, INC.
[LUMCAT]HP-4-ID-4ft-B-B-835-ASYM
[INPUT_ELECTRICAL]120.0 VOLTS, 36.7 WATTS
[INPUT_ELECTRICAL]277.0 VOLTS, 39.0 WATTS
[OTHER]see www.finelite.com for source file ITL89988. 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
[ABSOLUTE LUMENS]4221

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4221
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	115
Total Luminaire Watts	36.7
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.32 ft
Luminous Width (90-270)	4.00 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5211	5247	5253
55	4841	4885	4908
65	4451	4501	4501
75	4056	4039	4023
85	3343	3294	3294

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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	737.980	737.980	737.980	737.980	737.980	737.980	737.980	737.980	737.980	737.980
2.5	736.951	736.951	736.951	736.951	736.951	736.951	736.951	736.436	736.951	736.951
5.0	734.378	734.378	734.378	734.378	734.378	734.378	734.378	733.863	733.863	734.378
7.5	729.746	729.232	729.232	729.232	729.232	729.232	728.717	728.202	728.202	728.202
10.0	722.027	722.027	723.571	723.056	723.056	722.027	722.541	719.968	719.968	720.483
12.5	712.249	712.249	713.793	714.307	714.822	713.278	712.763	709.676	709.676	710.705
15.0	700.412	699.898	701.956	703.500	704.015	701.442	701.442	697.839	697.839	699.898
17.5	684.973	684.973	686.517	689.090	690.120	688.061	688.061	684.459	687.032	687.547
20.0	669.020	669.534	670.564	673.137	673.651	672.108	675.195	667.991	667.991	670.049
22.5	652.037	651.522	653.066	655.125	656.669	656.669	656.154	650.493	652.037	655.125
25.0	632.996	631.966	632.996	635.569	637.113	635.569	636.598	634.540	631.966	634.025
27.5	611.896	611.896	612.410	614.984	618.586	614.984	616.527	612.410	611.896	614.469
30.0	589.767	589.767	590.281	592.854	594.913	593.884	593.369	590.796	590.281	592.340
32.5	567.638	567.638	567.638	570.725	571.755	571.240	570.725	568.667	569.696	570.211
35.0	542.421	543.450	543.450	547.567	548.082	547.052	546.538	544.994	546.023	546.538
37.5	518.748	519.262	518.748	521.321	524.409	522.865	522.350	521.835	522.350	522.350
40.0	494.560	493.531	493.531	495.589	497.648	496.619	497.648	496.619	497.648	497.648
42.5	468.828	468.314	467.285	469.858	471.402	471.402	471.916	470.887	472.431	471.916
45.0	442.582	442.582	442.582	444.126	445.155	445.670	444.641	445.155	446.185	446.185
47.5	415.307	415.822	415.822	417.365	418.395	418.909	418.395	418.395	419.424	419.424
50.0	388.031	389.061	389.575	389.575	391.119	392.149	392.149	390.605	393.178	392.663
52.5	360.756	362.300	362.300	362.300	364.358	365.388	364.873	363.844	366.417	365.902
55.0	333.481	335.539	335.539	335.025	337.083	336.568	337.598	336.568	338.627	338.627
57.5	306.205	308.264	308.778	309.293	309.808	309.293	310.322	309.808	311.352	311.866
60.0	278.930	280.988	282.018	282.018	282.532	283.561	283.047	282.532	283.561	284.591
62.5	252.684	253.713	255.257	255.257	254.228	256.286	255.771	255.257	256.801	257.830
65.0	225.923	226.952	228.496	228.496	227.467	228.496	227.981	228.496	228.496	229.011
67.5	199.677	200.706	201.221	202.250	201.221	202.764	201.221	200.191	201.735	202.250
70.0	173.945	174.460	175.489	174.974	175.489	176.004	174.460	174.460	174.974	175.489
72.5	148.728	149.243	149.758	149.758	149.758	150.272	148.728	148.728	149.243	149.758
75.0	126.085	124.541	124.541	125.055	125.055	125.570	123.511	123.511	123.511	124.026
77.5	101.897	100.353	101.897	100.353	100.868	101.382	99.324	99.324	98.294	99.324
80.0	78.738	77.195	78.224	77.709	77.195	78.224	76.680	77.195	76.165	75.651
82.5	56.095	55.065	56.095	56.095	55.065	55.580	54.551	55.065	55.065	55.065
85.0	34.995	33.966	34.995	33.966	33.966	34.480	33.451	34.480	33.966	34.480
87.5	15.954	15.954	15.954	15.439	14.410	14.924	14.410	14.410	14.924	14.410
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92.5	34.480	33.966	35.510	34.480	32.936	29.849	30.878	31.907	29.849	21.614
95.0	73.078	73.078	75.651	74.107	72.563	75.136	81.826	80.282	65.873	42.714
97.5	115.277	112.704	120.424	123.511	130.716	139.980	140.494	122.997	96.236	62.785
100.0	178.577	176.004	184.752	189.899	200.706	204.823	193.501	163.138	127.114	83.370
102.5	241.362	239.303	248.567	254.742	269.666	267.608	243.935	203.794	155.418	103.955
105.0	299.515	297.456	309.293	326.790	341.715	332.966	296.942	244.964	181.150	125.055
107.5	368.990	366.417	388.031	415.307	421.482	401.412	351.493	282.018	205.338	145.126
110.0	464.711	462.138	491.987	507.426	502.794	466.770	402.441	312.895	228.496	165.711
112.5	581.018	577.416	596.972	598.515	583.591	531.099	443.612	339.142	250.625	186.811
115.0	687.032	682.915	695.266	688.061	657.183	583.591	475.004	362.815	271.210	208.425
117.5	786.356	781.209	786.870	765.256	714.822	620.645	498.162	382.371	292.825	230.555
120.0	866.123	861.492	857.889	822.380	753.934	643.288	514.631	401.412	313.410	252.684
122.5	923.762	920.674	903.691	859.433	774.519	656.154	529.555	419.939	335.539	276.357
125.0	957.728	954.640	931.481	875.387	782.753	662.844	541.391	437.436	356.639	299.515
127.5	969.564	966.476	938.686	876.416	782.239	666.961	553.228	454.419	378.768	322.673
130.0	964.418	961.330	931.996	868.182	777.607	670.049	566.094	472.431	399.868	345.317
132.5	948.464	946.406	917.072	855.831	771.946	673.651	578.959	490.958	422.512	368.990

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CANDELA TABULATION - (Cont.)

135.0	927.879	926.335	898.545	842.450	766.285	678.283	592.340	509.484	444.641	392.663
137.5	906.779	905.750	879.504	829.070	761.653	683.944	605.720	529.555	467.285	416.336
140.0	885.679	884.650	861.492	817.748	759.080	690.120	619.101	549.111	490.443	440.009
142.5	867.153	865.609	847.082	808.999	758.566	696.810	633.510	569.181	512.572	463.682
145.0	852.743	850.684	834.216	802.309	758.566	703.500	648.435	588.737	534.701	487.355
147.5	840.392	838.848	824.953	797.677	759.080	711.734	663.359	607.779	556.316	510.514
150.0	830.614	828.041	817.233	793.560	761.139	720.483	678.283	625.791	576.901	533.157
152.5	821.865	819.292	810.543	790.473	763.712	729.232	690.120	641.744	595.942	554.772
155.0	813.631	812.087	804.368	789.443	767.314	736.951	701.956	655.639	613.954	574.842
157.5	808.999	807.455	801.280	788.929	769.887	742.612	710.705	667.991	629.908	593.884
160.0	805.397	803.853	799.221	788.414	770.917	746.214	717.395	678.283	644.318	611.381
162.5	798.707	799.221	795.104	784.812	769.373	746.729	721.512	686.003	656.154	627.335
165.0	790.987	790.987	787.385	777.092	763.712	744.156	722.027	691.664	665.932	640.715
167.5	778.121	778.636	775.548	766.800	754.448	737.466	718.939	694.237	672.622	651.008
170.0	761.653	762.683	759.595	752.390	742.612	728.717	713.278	694.751	677.254	659.242
172.5	741.068	742.612	740.553	734.893	727.173	716.366	705.044	692.693	678.798	665.417
175.0	720.997	719.968	718.424	715.337	710.190	702.985	695.781	687.547	678.798	669.534
177.5	695.266	695.266	694.751	692.693	690.634	686.517	683.944	679.312	674.681	670.564
180.0	670.049	670.049	670.049	670.049	670.049	670.049	670.049	670.049	670.049	670.049

**Vert.
Angles**

Horizontal Angles

	90.0	95.0	112.5	135.0	157.5	180.0
0.0	737.980	737.980	737.980	737.980	737.980	737.980
2.5	736.951	736.951	736.951	736.951	736.951	736.951
5.0	733.863	734.378	733.863	733.349	732.834	733.863
7.5	728.717	728.717	728.202	727.173	727.688	727.688
10.0	721.512	721.512	719.454	719.968	720.997	719.968
12.5	712.249	711.734	708.646	710.705	712.249	710.705
15.0	701.442	700.412	695.781	699.898	700.412	698.868
17.5	689.090	688.576	682.400	686.003	686.517	684.459
20.0	671.078	670.049	665.417	670.049	670.049	667.991
22.5	656.669	655.639	648.435	654.610	653.066	651.008
25.0	635.569	634.540	629.908	635.054	632.996	631.452
27.5	615.498	614.984	609.837	614.469	612.925	610.867
30.0	592.854	592.854	588.737	593.369	590.281	589.252
32.5	570.725	571.240	566.608	569.696	567.638	567.123
35.0	547.052	544.994	542.935	545.508	543.450	540.362
37.5	521.835	520.806	518.233	521.321	519.262	516.689
40.0	497.133	496.104	493.531	496.104	494.560	491.987
42.5	471.916	470.887	468.314	470.887	468.314	466.770
45.0	446.185	445.670	442.582	444.641	442.068	440.524
47.5	419.939	419.424	415.822	417.880	415.307	414.278
50.0	393.692	392.663	389.061	391.119	388.031	388.031
52.5	365.388	365.902	362.300	363.844	361.271	360.756
55.0	338.112	337.598	335.539	336.568	333.995	332.966
57.5	310.837	309.808	308.264	309.293	307.234	306.205
60.0	283.561	282.532	281.503	282.018	280.474	278.930
62.5	255.771	256.286	254.228	254.742	253.713	252.169
65.0	228.496	229.011	226.952	227.467	225.923	224.894
67.5	203.794	201.735	199.162	200.706	199.677	198.647
70.0	176.518	174.974	173.431	174.460	173.945	172.916
72.5	150.272	148.728	147.699	149.243	148.728	147.184
75.0	125.055	123.511	122.482	123.511	123.511	122.482
77.5	100.353	98.809	98.294	99.838	99.324	101.382
80.0	77.195	75.651	76.165	76.165	76.165	77.709

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CANDELA TABULATION - (Cont.)

82.5	55.065	55.065	54.551	54.551	55.065	55.580
85.0	34.480	33.966	33.966	33.966	33.451	33.966
87.5	14.410	14.410	13.895	14.410	13.895	14.410
90.0	0.000	0.000	0.000	0.000	0.000	0.000
92.5	11.322	15.439	29.849	46.831	56.095	59.697
95.0	29.334	30.878	47.346	72.563	85.943	90.060
97.5	47.861	46.831	62.785	95.721	115.277	120.938
100.0	66.902	63.814	79.768	114.763	138.950	147.184
102.5	86.973	80.797	96.751	135.348	156.962	165.196
105.0	106.529	99.838	112.704	151.301	177.033	182.694
107.5	127.114	118.880	127.114	166.740	194.530	199.677
110.0	147.699	137.921	141.523	182.694	212.542	217.689
112.5	168.799	156.962	155.418	198.647	230.040	236.215
115.0	189.899	177.033	169.828	213.057	247.023	253.713
117.5	210.999	198.133	184.752	226.437	264.006	271.210
120.0	234.157	220.262	200.706	238.274	278.930	288.193
122.5	257.830	242.906	216.145	249.596	293.854	304.661
125.0	280.474	265.035	231.069	259.374	305.176	319.071
127.5	303.632	287.164	246.508	268.637	314.439	331.937
130.0	326.276	308.778	261.432	277.386	320.100	339.656
132.5	349.434	331.422	276.357	286.649	324.217	342.229
135.0	372.593	354.580	293.854	295.398	327.305	343.259
137.5	396.266	377.739	312.895	304.661	330.393	343.259
140.0	420.453	401.412	333.481	313.410	332.966	343.259
142.5	444.126	424.056	355.095	322.159	335.539	343.259
145.0	467.799	448.243	376.195	331.422	339.142	343.773
147.5	491.472	471.402	397.809	342.744	344.288	346.346
150.0	515.145	495.075	420.968	357.154	349.949	350.463
152.5	536.760	518.233	445.670	377.739	357.154	355.095
155.0	557.860	540.362	471.916	402.956	367.961	363.329
157.5	577.930	561.462	498.677	430.231	386.488	376.710
160.0	596.457	581.533	524.409	458.021	415.307	401.412
162.5	613.440	599.545	549.625	486.841	447.729	434.348
165.0	627.849	615.498	572.784	519.262	480.150	468.314
167.5	640.200	629.393	593.884	550.140	515.145	503.309
170.0	651.008	641.744	613.440	579.474	554.257	544.994
172.5	658.727	652.037	630.423	606.235	588.737	582.562
175.0	665.417	660.786	645.861	630.423	619.615	615.498
177.5	668.505	666.447	658.727	651.008	645.347	643.288
180.0	670.049	670.049	670.049	670.049	670.049	670.049

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	266.88	N.A.	6.30
0-30	558.72	N.A.	13.20
0-40	899.61	N.A.	21.30
0-60	1542.66	N.A.	36.50
0-80	1899.57	N.A.	45.00
0-90	1938.23	N.A.	45.90
10-90	1868.59	N.A.	44.30
20-40	632.73	N.A.	15.00
20-50	975.10	N.A.	23.10
40-70	868.56	N.A.	20.60
60-80	356.91	N.A.	8.50
70-80	131.41	N.A.	3.10
80-90	38.66	N.A.	0.90
90-110	297.46	N.A.	7.00
90-120	653.58	N.A.	15.50
90-130	1063.77	N.A.	25.20
90-150	1777.73	N.A.	42.10
90-180	2282.85	N.A.	54.10
110-180	1985.39	N.A.	47.00
0-180	4221.08	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

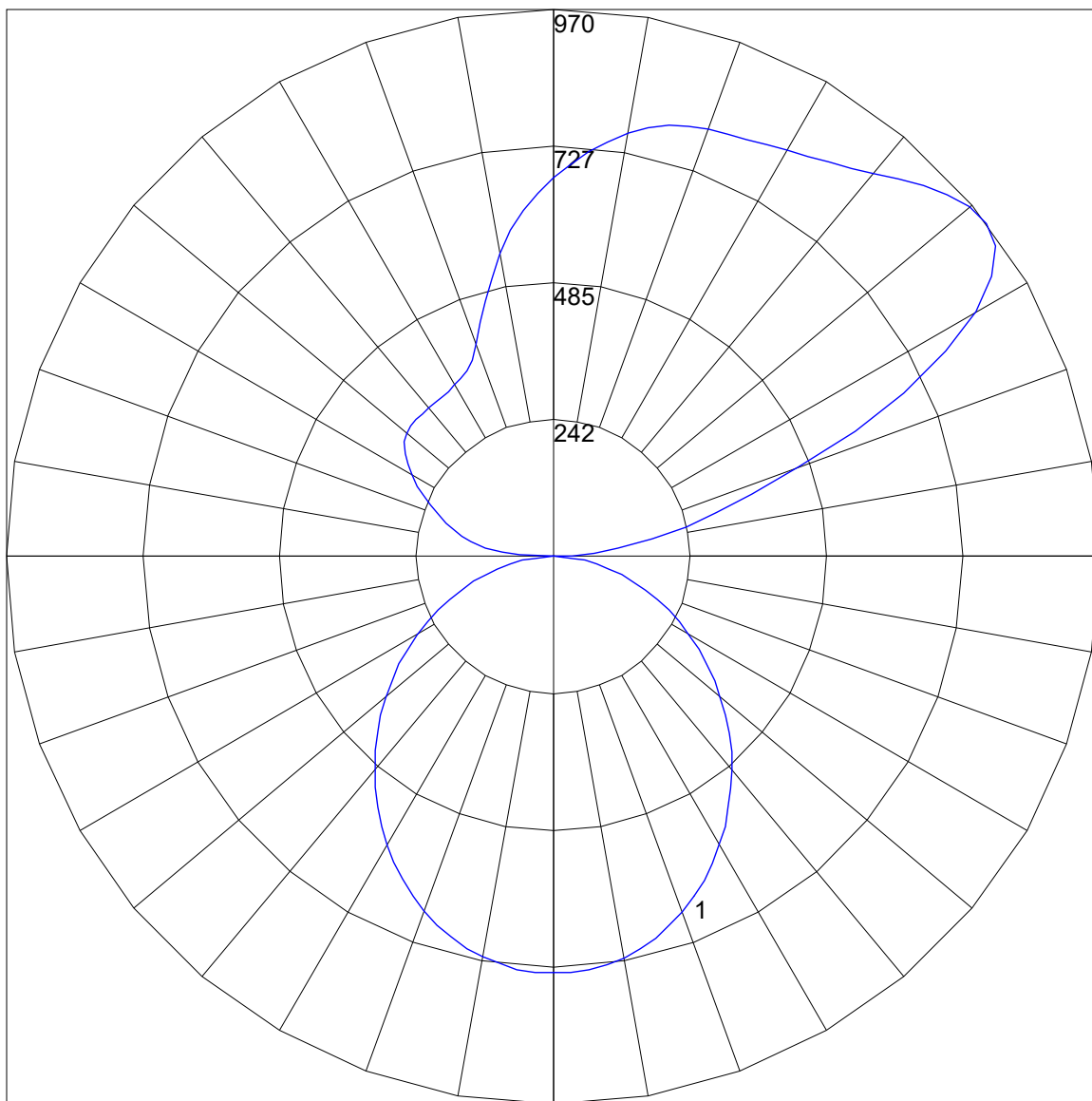
Zone	Lumens
0-10	69.64
10-20	197.24
20-30	291.85
30-40	340.88
40-50	342.37
50-60	300.68
60-70	225.50
70-80	131.41
80-90	38.66
90-100	75.43
100-110	222.02
110-120	356.12
120-130	410.19
130-140	383.34
140-150	330.63
150-160	264.25
160-170	177.65
170-180	63.22

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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46
1	97	92	89	85	89	85	82	79	71	69	66	58	56	55	46	45	44	39
2	88	81	75	69	81	74	69	64	62	58	55	51	48	46	41	39	37	32
3	80	71	64	58	73	65	59	54	55	50	46	45	42	39	36	34	31	27
4	73	63	55	49	67	58	51	46	49	43	39	40	36	33	32	29	27	23
5	67	56	48	42	62	52	44	39	43	38	34	36	32	29	29	26	24	20
6	62	50	42	36	57	46	39	34	39	34	29	32	28	25	26	23	21	18
7	57	45	37	32	52	42	35	30	35	30	26	29	25	22	24	21	18	16
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	16	14
9	49	37	30	25	45	35	28	23	30	24	21	25	21	18	20	17	15	13
10	46	34	27	22	42	32	25	21	27	22	18	23	19	16	19	16	14	12

POLAR GRAPH



Maximum Candela = 969.564 Located At Horizontal Angle = 0, Vertical Angle = 127.5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)