

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-S-835-ASY-ITL89988.010.IES

DESCRIPTION INFORMATION (From Photometric File)

[TEST]ITL89988.010 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-S-835-ASYM
[INPUT_ELECTRICAL]120.0 VOLTS, 32.8 WATTS
[INPUT_ELECTRICAL]277.0 VOLTS, 35.3 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]3824

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3825
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	117
Total Luminaire Watts	32.8
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	4146	4175	4179
55	3851	3887	3904
65	3541	3581	3581
75	3227	3213	3200
85	2659	2620	2620

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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	587.097	587.097	587.097	587.097	587.097	587.097	587.097	587.097	587.097	587.097
2.5	586.278	586.278	586.278	586.278	586.278	586.278	586.278	585.869	586.278	586.278
5.0	584.231	584.231	584.231	584.231	584.231	584.231	584.231	583.822	583.822	584.231
7.5	580.547	580.137	580.137	580.137	580.137	580.137	579.728	579.318	579.318	579.318
10.0	574.405	574.405	575.634	575.224	575.224	574.405	574.815	572.768	572.768	573.177
12.5	566.627	566.627	567.855	568.264	568.674	567.446	567.036	564.580	564.580	565.398
15.0	557.210	556.801	558.438	559.667	560.076	558.029	558.029	555.163	555.163	556.801
17.5	544.928	544.928	546.156	548.203	549.022	547.384	547.384	544.518	546.566	546.975
20.0	532.236	532.645	533.464	535.511	535.921	534.692	537.149	531.417	531.417	533.055
22.5	518.725	518.316	519.544	521.182	522.410	522.410	522.001	517.497	518.725	521.182
25.0	503.577	502.758	503.577	505.624	506.853	505.624	506.443	504.805	502.758	504.396
27.5	486.791	486.791	487.201	489.248	492.114	489.248	490.476	487.201	486.791	488.838
30.0	469.187	469.187	469.596	471.643	473.281	472.462	472.052	470.005	469.596	471.234
32.5	451.582	451.582	451.582	454.038	454.857	454.448	454.038	452.401	453.219	453.629
35.0	431.521	432.339	432.339	435.615	436.024	435.205	434.796	433.568	434.387	434.796
37.5	412.688	413.097	412.688	414.735	417.191	415.963	415.553	415.144	415.553	415.553
40.0	393.445	392.626	392.626	394.264	395.902	395.083	395.902	395.083	395.902	395.902
42.5	372.975	372.565	371.746	373.793	375.022	375.022	375.431	374.612	375.841	375.431
45.0	352.095	352.095	352.095	353.323	354.142	354.551	353.732	354.142	354.961	354.961
47.5	330.396	330.805	330.805	332.033	332.852	333.262	332.852	332.852	333.671	333.671
50.0	308.697	309.516	309.925	309.925	311.153	311.972	311.972	310.744	312.791	312.382
52.5	286.998	288.226	288.226	288.226	289.864	290.683	290.273	289.454	291.502	291.092
55.0	265.299	266.937	266.937	266.527	268.165	267.756	268.575	267.756	269.393	269.393
57.5	243.600	245.238	245.647	246.057	246.466	246.057	246.876	246.466	247.695	248.104
60.0	221.901	223.539	224.358	224.358	224.767	225.586	225.177	224.767	225.586	226.405
62.5	201.022	201.840	203.069	203.069	202.250	203.887	203.478	203.069	204.297	205.116
65.0	179.732	180.551	181.779	181.779	180.960	181.779	181.370	181.779	181.779	182.189
67.5	158.852	159.671	160.080	160.899	160.080	161.309	160.080	159.261	160.490	160.899
70.0	138.381	138.791	139.610	139.200	139.610	140.019	138.791	138.791	139.200	139.610
72.5	118.320	118.730	119.139	119.139	119.139	119.548	118.320	118.320	118.730	119.139
75.0	100.306	99.078	99.078	99.487	99.487	99.897	98.259	98.259	98.259	98.668
77.5	81.064	79.835	81.064	79.835	80.245	80.654	79.017	79.017	78.198	79.017
80.0	62.640	61.412	62.231	61.821	61.412	62.231	61.002	61.412	60.593	60.184
82.5	44.626	43.807	44.626	44.626	43.807	44.217	43.398	43.807	43.807	43.807
85.0	27.840	27.021	27.840	27.021	27.021	27.431	26.612	27.431	27.021	27.431
87.5	12.692	12.692	12.692	12.282	11.463	11.873	11.463	11.463	11.873	11.463
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	297.457	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	421.483	401.412	351.493	282.017	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	577.415	596.971	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	620.644	498.162	382.370	292.825	230.554
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	419.938	335.539	276.357
125.0	957.727	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	648.434	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	729.231	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	667.990	629.908	593.884
160.0	805.397	803.853	799.221	788.414	770.917	746.214	717.395	678.283	644.317	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	691.663	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	695.780	687.546	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	587.097	587.097	587.097	587.097	587.097	587.097
2.5	586.278	586.278	586.278	586.278	586.278	586.278
5.0	583.822	584.231	583.822	583.413	583.003	583.822
7.5	579.728	579.728	579.318	578.500	578.909	578.909
10.0	573.996	573.996	572.359	572.768	573.587	572.768
12.5	566.627	566.217	563.761	565.398	566.627	565.398
15.0	558.029	557.210	553.525	556.801	557.210	555.982
17.5	548.203	547.794	542.881	545.747	546.156	544.518
20.0	533.874	533.055	529.370	533.055	533.055	531.417
22.5	522.410	521.591	515.860	520.773	519.544	517.907
25.0	505.624	504.805	501.121	505.215	503.577	502.349
27.5	489.657	489.248	485.154	488.838	487.610	485.972
30.0	471.643	471.643	468.368	472.052	469.596	468.777
32.5	454.038	454.448	450.763	453.219	451.582	451.172
35.0	435.205	433.568	431.930	433.977	432.339	429.883
37.5	415.144	414.325	412.278	414.735	413.097	411.050
40.0	395.492	394.673	392.626	394.673	393.445	391.398
42.5	375.431	374.612	372.565	374.612	372.565	371.337
45.0	354.961	354.551	352.095	353.732	351.685	350.457
47.5	334.080	333.671	330.805	332.443	330.396	329.577
50.0	313.200	312.382	309.516	311.153	308.697	308.697
52.5	290.683	291.092	288.226	289.454	287.408	286.998
55.0	268.984	268.575	266.937	267.756	265.709	264.890
57.5	247.285	246.466	245.238	246.057	244.419	243.600
60.0	225.586	224.767	223.948	224.358	223.130	221.901
62.5	203.478	203.887	202.250	202.659	201.840	200.612
65.0	181.779	182.189	180.551	180.960	179.732	178.913
67.5	162.127	160.490	158.443	159.671	158.852	158.033
70.0	140.428	139.200	137.972	138.791	138.381	137.563
72.5	119.548	118.320	117.501	118.730	118.320	117.092
75.0	99.487	98.259	97.440	98.259	98.259	97.440
77.5	79.835	78.607	78.198	79.426	79.017	80.654
80.0	61.412	60.184	60.593	60.593	60.593	61.821

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CANDELA TABULATION - (Cont.)

82.5	43.807	43.807	43.398	43.398	43.807	44.217
85.0	27.431	27.021	27.021	27.021	26.612	27.021
87.5	11.463	11.463	11.054	11.463	11.054	11.463
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	106.528	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	226.438	264.005	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	372.592	354.580	293.854	295.398	327.305	343.259
137.5	396.265	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	212.31	N.A.	5.60
0-30	444.49	N.A.	11.60
0-40	715.68	N.A.	18.70
0-60	1227.26	N.A.	32.10
0-80	1511.2	N.A.	39.50
0-90	1541.95	N.A.	40.30
10-90	1486.55	N.A.	38.90
20-40	503.36	N.A.	13.20
20-50	775.74	N.A.	20.30
40-70	690.98	N.A.	18.10
60-80	283.94	N.A.	7.40
70-80	104.54	N.A.	2.70
80-90	30.75	N.A.	0.80
90-110	297.46	N.A.	7.80
90-120	653.58	N.A.	17.10
90-130	1063.77	N.A.	27.80
90-150	1777.73	N.A.	46.50
90-180	2282.85	N.A.	59.70
110-180	1985.39	N.A.	51.90
0-180	3824.8	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	55.40
10-20	156.91
20-30	232.18
30-40	271.19
40-50	272.37
50-60	239.21
60-70	179.40
70-80	104.54
80-90	30.75
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

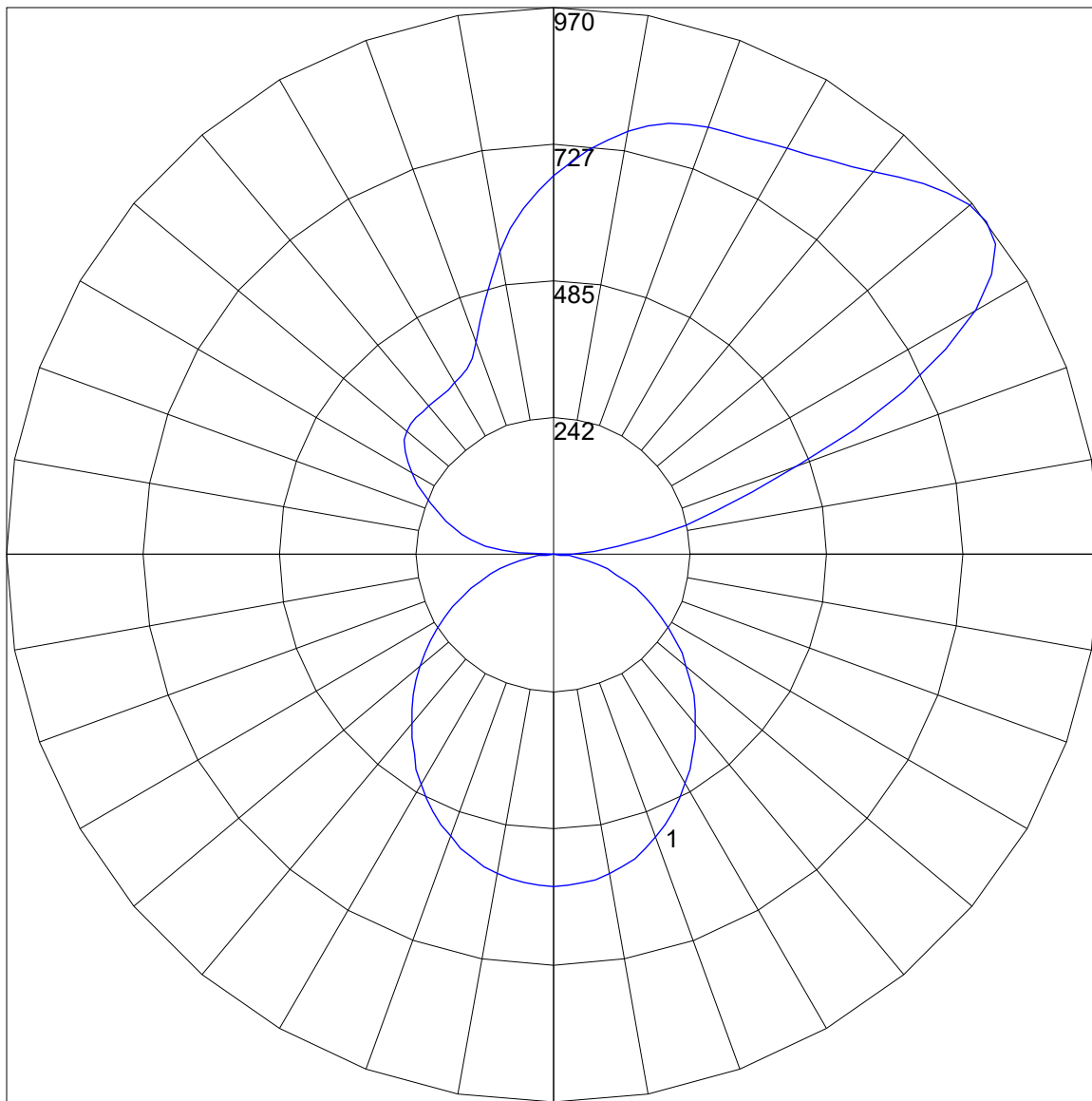
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	96	91	87	84	87	83	80	77	68	66	64	54	53	51	42	41	40	34
2	87	80	74	68	79	73	68	63	60	56	53	48	45	43	37	35	33	28
3	79	70	63	57	72	64	58	53	53	48	44	42	39	36	32	30	28	24
4	72	62	54	48	66	57	50	45	47	42	38	37	34	31	29	26	24	20
5	66	55	47	41	60	50	43	38	42	36	32	34	30	27	26	23	21	18
6	61	49	41	36	55	45	38	33	38	32	28	30	26	23	24	21	19	16
7	56	44	37	31	51	41	34	29	34	29	25	28	24	21	22	19	17	14
8	52	40	33	27	48	37	30	26	31	26	22	25	21	18	20	17	15	12
9	49	37	29	24	44	34	27	23	28	23	20	23	19	16	18	15	13	11
10	45	34	26	22	41	31	25	20	26	21	18	21	18	15	17	14	12	10

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.)