

# 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-S-S-835-ASY-ITL89988.001.IES

### DESCRIPTION INFORMATION (From Photometric File)

[TEST]ITL89988.001 Family Correlation File

[TESTLAB]INDEPENDENT TESTING LABORATORIES, INC.

[TESTDATE]11/16/17

[ISSUEDATE]12/11/17

[MANUFAC]FINELITE, INC.

[LUMCAT]HP-4-ID-4ft-S-S-835-ASYM

[\_INPUT\_ELECTRICAL]120.0 VOLTS, 28.9 WATTS

[\_INPUT\_ELECTRICAL]277.0 VOLTS, 31.6 WATTS

[OTHER]see [www.finelite.com](http://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](http://www.finelite.com/download_files/series_downloads/photometry_pdf/FL_Family_Correlation_WhitePaper.pdf)

[\_ABSOLUTE]LUMENS]3358

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3358
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	116
Total Luminaire Watts	28.9
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

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HP-4-ID-4FT-S-S-835-ASY-ITL89988.001.IES**

**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	567.445	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	546.565	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	506.852	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	469.186	469.186	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	434.386	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	375.840	375.431
45.0	352.095	352.095	352.095	353.323	354.142	354.551	353.732	354.142	354.960	354.960
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	268.574	267.756	269.393	269.393
57.5	243.600	245.238	245.647	246.057	246.466	246.057	246.876	246.466	247.694	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	201.021	201.840	203.068	203.068	202.250	203.887	203.478	203.068	204.297	205.116
65.0	179.732	180.551	181.779	181.779	180.960	181.779	181.370	181.779	181.779	182.188
67.5	158.852	159.671	160.080	160.899	160.080	161.308	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	11.464	11.873	11.464	11.464	11.873	11.464
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92.5	27.431	27.021	28.249	27.431	26.202	23.746	24.565	25.384	23.746	17.195
95.0	58.137	58.137	60.184	58.955	57.727	59.774	65.097	63.868	52.405	33.981
97.5	91.708	89.661	95.802	98.259	103.991	111.360	111.770	97.850	76.560	49.948
100.0	142.066	140.019	146.979	151.073	159.671	162.946	153.939	129.784	101.125	66.325
102.5	192.014	190.377	197.746	202.659	214.532	212.894	194.061	162.127	123.643	82.701
105.0	238.278	236.640	246.057	259.977	271.850	264.890	236.231	194.880	144.113	99.487
107.5	293.549	291.502	308.697	330.396	335.309	319.342	279.629	224.358	163.356	115.454
110.0	369.699	367.652	391.398	403.681	399.996	371.337	320.160	248.923	181.779	131.831
112.5	462.226	459.361	474.918	476.146	464.274	422.513	352.913	269.803	199.384	148.617
115.0	546.565	543.290	553.116	547.384	522.820	464.274	377.888	288.636	215.760	165.812
117.5	625.582	621.488	625.991	608.796	568.674	493.751	396.311	304.193	232.956	183.417
120.0	689.041	685.356	682.490	654.241	599.789	511.765	409.412	319.342	249.332	201.021
122.5	734.895	732.439	718.928	683.719	616.166	522.001	421.285	334.080	266.937	219.854
125.0	761.916	759.460	741.036	696.410	622.716	527.323	430.702	348.000	283.723	238.278
127.5	771.333	768.876	746.768	697.229	622.307	530.598	440.118	361.511	301.327	256.702
130.0	767.239	764.782	741.446	690.679	618.622	533.055	450.354	375.840	318.113	274.716
132.5	754.547	752.909	729.573	680.853	614.118	535.921	460.589	390.579	336.127	293.549

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HP-4-ID-4FT-S-S-835-ASY-ITL89988.001.IES**

**CANDELA TABULATION - (Cont.)**

135.0	738.170	736.942	714.834	670.208	609.615	539.605	471.234	405.318	353.732	312.382
137.5	721.384	720.566	699.686	659.563	605.930	544.109	481.878	421.285	371.746	331.215
140.0	704.599	703.780	685.356	650.556	603.883	549.022	492.523	436.843	390.170	350.048
142.5	689.860	688.631	673.893	643.596	603.474	554.344	503.987	452.810	407.775	368.880
145.0	678.396	676.759	663.657	638.274	603.474	559.667	515.859	468.368	425.379	387.713
147.5	668.570	667.342	656.288	634.589	603.883	566.217	527.732	483.516	442.575	406.137
150.0	660.791	658.744	650.147	631.314	605.521	573.177	539.605	497.845	458.951	424.151
152.5	653.831	651.784	644.824	628.857	607.568	580.137	549.022	510.537	474.099	441.346
155.0	647.281	646.053	639.911	628.038	610.434	586.278	558.438	521.591	488.429	457.314
157.5	643.596	642.368	637.455	627.629	612.481	590.782	565.398	531.417	501.121	472.462
160.0	640.730	639.502	635.817	627.220	613.300	593.648	570.721	539.605	512.584	486.382
162.5	635.408	635.817	632.542	624.354	612.071	594.057	573.996	545.747	522.001	499.074
165.0	629.267	629.267	626.401	618.213	607.568	592.010	574.405	550.250	529.780	509.718
167.5	619.031	619.441	616.984	610.024	600.198	586.688	571.949	552.297	535.102	517.907
170.0	605.930	606.749	604.293	598.561	590.782	579.728	567.445	552.707	538.787	524.457
172.5	589.554	590.782	589.144	584.641	578.500	569.902	560.895	551.069	540.015	529.370
175.0	573.587	572.768	571.540	569.083	564.989	559.257	553.525	546.975	540.015	532.645
177.5	553.116	553.116	552.707	551.069	549.431	546.156	544.109	540.424	536.740	533.464
180.0	533.055	533.055	533.055	533.055	533.055	533.055	533.055	533.055	533.055	533.055

**Vert.  
Angles**

**Horizontal Angles**

	<u>90.0</u>	<u>95.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>
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	572.358	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	515.859	520.772	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	354.960	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	287.407	286.998
55.0	268.984	268.574	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	223.949	224.358	223.130	221.901
62.5	203.478	203.887	202.250	202.659	201.840	200.612
65.0	181.779	182.188	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

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HP-4-ID-4FT-S-S-835-ASY-ITL89988.001.IES**

**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	11.464	11.464	11.054	11.464	11.054	11.464
90.0	0.000	0.000	0.000	0.000	0.000	0.000
92.5	9.007	12.282	23.746	37.257	44.626	47.492
95.0	23.337	24.565	37.666	57.727	68.372	71.647
97.5	38.075	37.257	49.948	76.151	91.708	96.212
100.0	53.224	50.767	63.459	91.299	110.541	117.092
102.5	69.191	64.278	76.970	107.675	124.871	131.421
105.0	84.748	79.426	89.661	120.367	140.838	145.341
107.5	101.125	94.574	101.125	132.650	154.758	158.852
110.0	117.501	109.722	112.588	145.341	169.087	173.181
112.5	134.287	124.871	123.643	158.033	183.007	187.920
115.0	151.073	140.838	135.106	169.497	196.518	201.840
117.5	167.859	157.624	146.979	180.141	210.029	215.760
120.0	186.283	175.228	159.671	189.558	221.901	229.271
122.5	205.116	193.243	171.953	198.565	233.774	242.372
125.0	223.130	210.847	183.826	206.344	242.781	253.836
127.5	241.553	228.452	196.108	213.713	250.151	264.071
130.0	259.567	245.647	207.981	220.673	254.654	270.212
132.5	277.991	263.662	219.854	228.043	257.930	272.259
135.0	296.415	282.085	233.774	235.003	260.386	273.078
137.5	315.247	300.509	248.923	242.372	262.843	273.078
140.0	334.490	319.342	265.299	249.332	264.890	273.078
142.5	353.323	337.356	282.494	256.292	266.937	273.078
145.0	372.156	356.598	299.280	263.662	269.803	273.487
147.5	390.989	375.022	316.476	272.669	273.897	275.534
150.0	409.822	393.855	334.899	284.132	278.400	278.810
152.5	427.017	412.278	354.551	300.509	284.132	282.494
155.0	443.803	429.883	375.431	320.570	292.730	289.045
157.5	459.770	446.669	396.721	342.269	307.469	299.690
160.0	474.509	462.636	417.191	364.377	330.396	319.342
162.5	488.019	476.965	437.252	387.304	356.189	345.544
165.0	499.483	489.657	455.676	413.097	381.982	372.565
167.5	509.309	500.711	472.462	437.662	409.822	400.405
170.0	517.907	510.537	488.019	460.998	440.937	433.568
172.5	524.048	518.725	501.530	482.288	468.368	463.455
175.0	529.370	525.685	513.812	501.530	492.932	489.657
177.5	531.827	530.189	524.048	517.907	513.403	511.765
180.0	533.055	533.055	533.055	533.055	533.055	533.055

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HP-4-ID-4FT-S-S-835-ASY-ITL89988.001.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	212.31	N.A.	6.30
0-30	444.49	N.A.	13.20
0-40	715.68	N.A.	21.30
0-60	1227.26	N.A.	36.50
0-80	1511.2	N.A.	45.00
0-90	1541.95	N.A.	45.90
10-90	1486.55	N.A.	44.30
20-40	503.36	N.A.	15.00
20-50	775.74	N.A.	23.10
40-70	690.98	N.A.	20.60
60-80	283.94	N.A.	8.50
70-80	104.54	N.A.	3.10
80-90	30.75	N.A.	0.90
90-110	236.64	N.A.	7.00
90-120	519.95	N.A.	15.50
90-130	846.28	N.A.	25.20
90-150	1414.27	N.A.	42.10
90-180	1816.11	N.A.	54.10
110-180	1579.47	N.A.	47.00
0-180	3358.06	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	60.01
100-110	176.63
110-120	283.31
120-130	326.33
130-140	304.96
140-150	263.03
150-160	210.22
160-170	141.33
170-180	50.29

# IES INDOOR REPORT

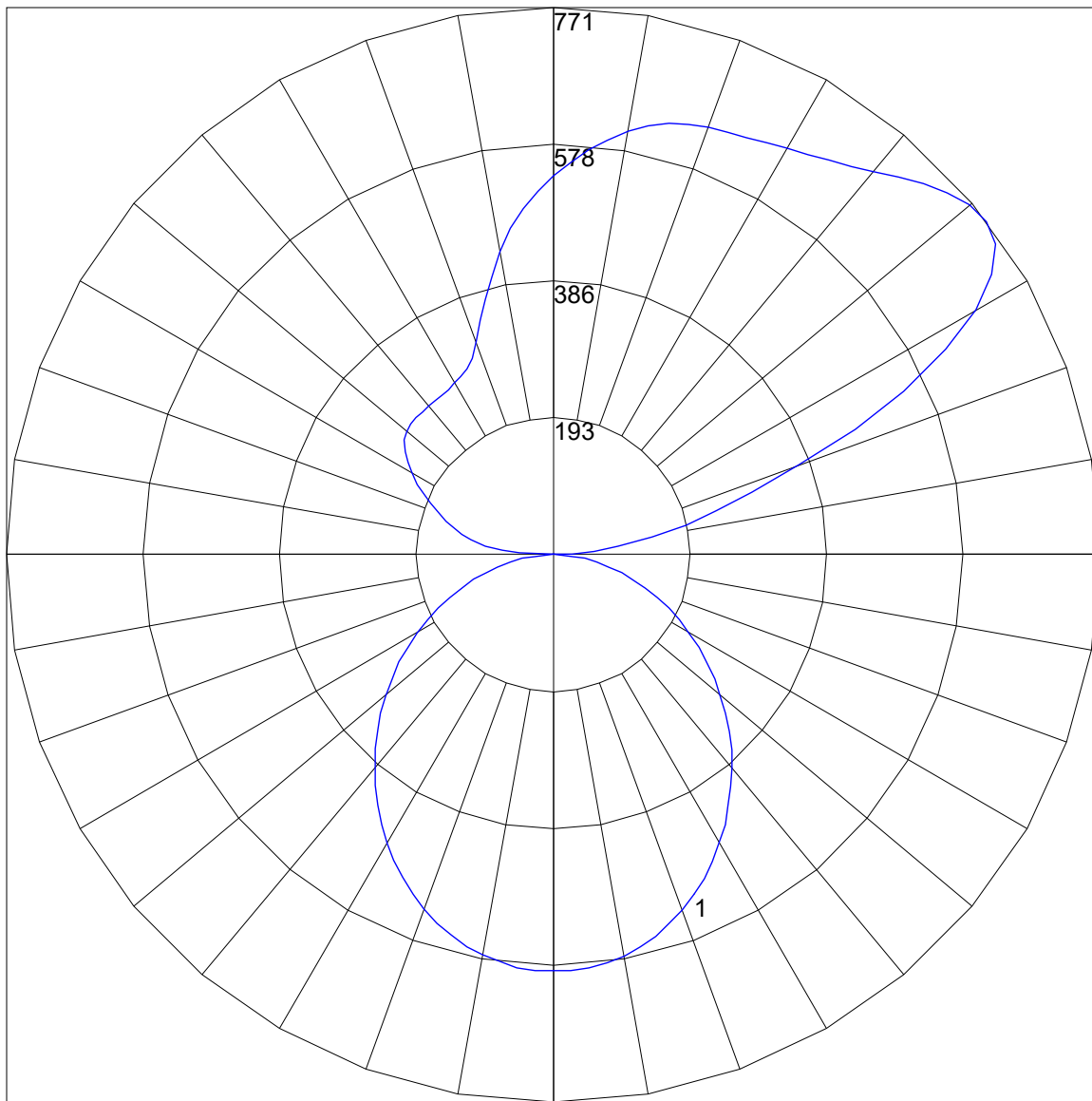
PHOTOMETRIC FILENAME : HP-4-ID-4FT-S-S-835-ASY-ITL89988.001.IES

## 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 = 771.333 Located At Horizontal Angle = 0, Vertical Angle = 127.5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)