

# 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 : 2D90 - HP-4C-ID-P-18IN7-8IN-V-B-835-ITL93249.037.IES

### DESCRIPTION INFORMATION (From Photometric File)

[TEST]ITL93249.037 Family Correlation File

[TESTLAB]INDEPENDENT TESTING LABORATORIES, INC.

[TESTDATE]03/20/20

[ISSUEDATE]09/28/20

[MANUFAC]FINELITE, INC.

[LUMCAT]FINELITE HP-4C-ID-P-18in7-8in-V-B-835

[\_INPUT\_ELECTRICAL]120.0 VOLTS, 18.1 WATTS

[\_INPUT\_ELECTRICAL]277.0 VOLTS, 18.6 WATTS

[\_ABSOLUTE]LUMENS]2071

[OTHER]see [www.finelite.com](http://www.finelite.com) for source file ITL93249. 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)

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2070
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	114
Total Luminaire Watts	18.1
Ballast Factor	1.00
CIE Type	Semi-Indirect
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.33 ft
Luminous Width (90-270)	2.88 ft
Luminous Height	0.02 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2337	2401	2528
55	2070	2148	2297
65	1809	1881	2073
75	1539	1580	1797
85	1317	1292	1502

CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>
0.0	276.521	276.521	276.521	276.521	276.521	276.521	276.521	276.521	276.521
2.5	276.282	276.282	276.521	276.282	276.043	276.043	276.043	275.803	275.803
5.0	275.086	275.086	275.086	275.086	274.847	274.607	274.368	274.129	274.129
7.5	273.172	272.933	272.933	272.933	272.454	272.215	271.737	271.498	271.019
10.0	269.584	269.823	269.823	269.823	269.345	268.866	268.388	267.910	267.670
12.5	265.757	265.517	265.517	265.757	265.517	264.561	264.082	263.125	262.886
15.0	260.255	260.733	260.255	260.973	260.973	259.777	258.820	257.624	256.667
17.5	253.557	254.275	254.275	254.993	254.993	253.797	252.122	250.926	249.969
20.0	246.860	247.577	247.816	248.295	248.773	247.099	245.424	243.272	242.793
22.5	239.205	239.683	240.162	241.358	241.836	239.683	237.770	235.378	234.899
25.0	231.072	231.550	232.029	233.703	233.703	232.029	229.876	226.766	225.570
27.5	221.982	222.221	223.417	225.092	225.331	223.417	220.547	218.155	216.720
30.0	212.893	213.371	214.806	216.002	216.720	214.328	211.696	208.347	207.869
32.5	202.607	204.042	204.999	207.151	207.630	204.760	202.607	199.019	197.822
35.0	192.799	193.756	195.191	197.344	197.344	195.430	192.560	189.450	188.015
37.5	182.992	183.949	185.384	187.298	187.776	186.101	182.753	179.643	178.447
40.0	173.184	173.663	175.098	177.729	178.208	176.055	173.184	169.118	167.922
42.5	162.181	163.138	165.052	167.444	167.922	166.487	163.138	159.550	158.114
45.0	151.895	152.852	154.526	156.679	157.636	156.201	152.374	149.264	148.068
47.5	141.849	142.566	144.241	146.633	147.350	145.676	142.088	138.978	138.261
50.0	131.323	132.759	134.194	136.825	137.304	135.629	132.041	129.171	127.975
52.5	121.516	122.234	123.908	126.539	127.018	125.583	122.473	119.124	119.124
55.0	111.230	112.426	113.862	115.775	116.493	115.775	112.426	109.795	108.838
57.5	101.901	102.858	103.576	105.968	106.685	105.250	102.141	100.227	99.509
60.0	92.572	92.811	94.008	96.160	97.117	95.921	93.051	90.659	89.702
62.5	83.483	83.722	84.439	86.592	87.071	86.114	83.483	81.808	80.851
65.0	73.914	74.393	75.350	76.546	77.742	76.546	74.632	72.718	72.240
67.5	65.542	66.021	66.021	67.456	68.173	67.695	65.064	64.107	63.868
70.0	57.170	57.409	56.931	58.605	58.844	58.366	56.692	55.974	55.256
72.5	49.276	49.037	48.798	49.755	49.994	49.994	48.559	47.841	47.363
75.0	41.143	41.383	40.904	41.143	41.622	41.622	40.904	39.947	40.186
77.5	34.206	34.206	33.010	33.489	33.010	33.728	33.010	33.010	33.249
80.0	27.509	27.509	26.073	26.313	25.356	26.552	26.073	26.552	26.313
82.5	21.529	21.050	19.854	19.615	18.658	19.615	19.854	20.332	20.572
85.0	15.548	15.309	14.113	13.156	12.200	13.396	14.113	14.591	15.070
87.5	10.764	10.286	8.372	7.894	6.458	7.415	8.611	9.807	10.286
90.0	7.415	6.937	5.263	4.306	2.870	3.588	4.784	6.458	6.937
92.5	19.997	19.067	16.742	13.951	12.091	12.556	15.812	18.137	19.532
95.0	31.623	30.693	27.903	25.112	24.182	23.717	26.973	29.298	30.693
97.5	44.644	44.179	40.924	37.669	36.739	36.739	39.064	41.854	42.784
100.0	59.991	58.596	55.340	53.015	50.690	51.155	52.550	55.340	56.736
102.5	74.872	73.477	71.152	68.362	66.036	66.501	68.362	69.757	71.152
105.0	90.684	89.754	86.963	85.103	82.778	82.778	83.708	86.963	86.963
107.5	107.425	106.960	104.170	101.845	99.985	101.380	100.450	102.775	103.240
110.0	124.632	125.097	121.377	120.912	119.052	119.517	117.191	119.517	121.377
112.5	143.699	142.769	140.444	140.909	138.118	137.653	136.258	138.583	139.048
115.0	161.836	160.906	159.510	159.045	157.185	155.790	156.255	157.185	156.720
117.5	180.438	179.507	179.042	177.647	177.182	174.857	174.857	175.787	175.322
120.0	199.039	200.434	199.039	197.644	196.714	195.784	193.924	194.854	192.994
122.5	219.966	221.361	219.501	217.176	217.176	215.316	213.921	214.386	212.060
125.0	239.963	241.823	240.893	237.173	236.708	235.313	234.383	232.523	231.127
127.5	259.030	262.750	260.890	259.495	256.705	253.915	253.450	250.659	250.194
130.0	279.492	283.678	280.887	280.422	278.562	274.377	272.516	271.121	269.726
132.5	301.349	304.139	301.349	300.419	298.559	294.373	291.583	290.653	288.793

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 2D90 - HP-4C-ID-P-18IN7-8IN-V-B-835-ITL93249.037.IES****CANDELA TABULATION - (Cont.)**

<b>135.0</b>	321.346	323.671	322.276	320.416	319.486	315.300	312.045	311.115	310.185
<b>137.5</b>	341.343	343.203	343.203	340.413	339.018	334.832	332.507	330.647	329.717
<b>140.0</b>	362.735	362.735	362.270	360.875	359.015	355.294	351.574	350.644	348.784
<b>142.5</b>	381.337	381.802	381.337	379.942	379.942	374.826	371.571	369.711	367.851
<b>145.0</b>	399.474	399.939	399.939	398.079	399.009	393.428	391.103	388.778	387.848
<b>147.5</b>	418.541	418.075	417.145	415.285	416.680	411.565	408.775	407.379	405.984
<b>150.0</b>	434.817	434.817	434.352	432.957	433.422	428.772	426.911	425.516	423.191
<b>152.5</b>	450.164	451.094	449.699	448.768	449.699	445.978	443.188	441.793	439.467
<b>155.0</b>	465.510	466.440	464.580	463.650	465.045	461.325	458.534	457.604	456.209
<b>157.5</b>	478.996	479.926	478.066	476.671	478.531	474.811	473.881	472.486	470.625
<b>160.0</b>	490.157	491.087	489.692	489.692	490.157	487.367	486.437	485.507	483.647
<b>162.5</b>	500.388	501.784	501.318	499.923	501.318	499.458	498.528	497.598	496.668
<b>165.0</b>	510.154	511.084	510.619	509.689	511.084	508.759	508.294	507.829	506.899
<b>167.5</b>	518.990	518.525	518.525	518.060	518.990	518.060	517.595	517.130	516.665
<b>170.0</b>	525.501	525.501	525.036	525.966	525.501	524.571	524.571	524.571	524.571
<b>172.5</b>	531.081	530.616	530.616	531.081	530.616	530.616	530.616	530.151	530.151
<b>175.0</b>	534.802	534.337	534.337	534.337	534.337	534.337	534.337	534.337	534.802
<b>177.5</b>	536.662	536.662	536.662	536.662	536.662	536.662	536.662	536.662	536.662
<b>180.0</b>	537.592	537.592	537.592	537.592	537.592	537.592	537.592	537.592	537.592

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 2D90 - HP-4C-ID-P-18IN7-8IN-V-B-835-ITL93249.037.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	99.12	N.A.	4.80
0-30	205.38	N.A.	9.90
0-40	326.72	N.A.	15.80
0-60	546.81	N.A.	26.40
0-80	664.97	N.A.	32.10
0-90	680.89	N.A.	32.90
10-90	654.85	N.A.	31.60
20-40	227.60	N.A.	11.00
20-50	346.25	N.A.	16.70
40-70	294.64	N.A.	14.20
60-80	118.16	N.A.	5.70
70-80	43.61	N.A.	2.10
80-90	15.93	N.A.	0.80
90-110	122.05	N.A.	5.90
90-120	278.78	N.A.	13.50
90-130	490.52	N.A.	23.70
90-150	982.56	N.A.	47.50
90-180	1389.59	N.A.	67.10
110-180	1267.54	N.A.	61.20
0-180	2070.48	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	26.04
10-20	73.07
20-30	106.26
30-40	121.34
40-50	118.65
50-60	101.44
60-70	74.54
70-80	43.61
80-90	15.93
90-100	30.84
100-110	91.21
110-120	156.73
120-130	211.75
130-140	244.86
140-150	247.18
150-160	212.69
160-170	143.62
170-180	50.72

# IES INDOOR REPORT

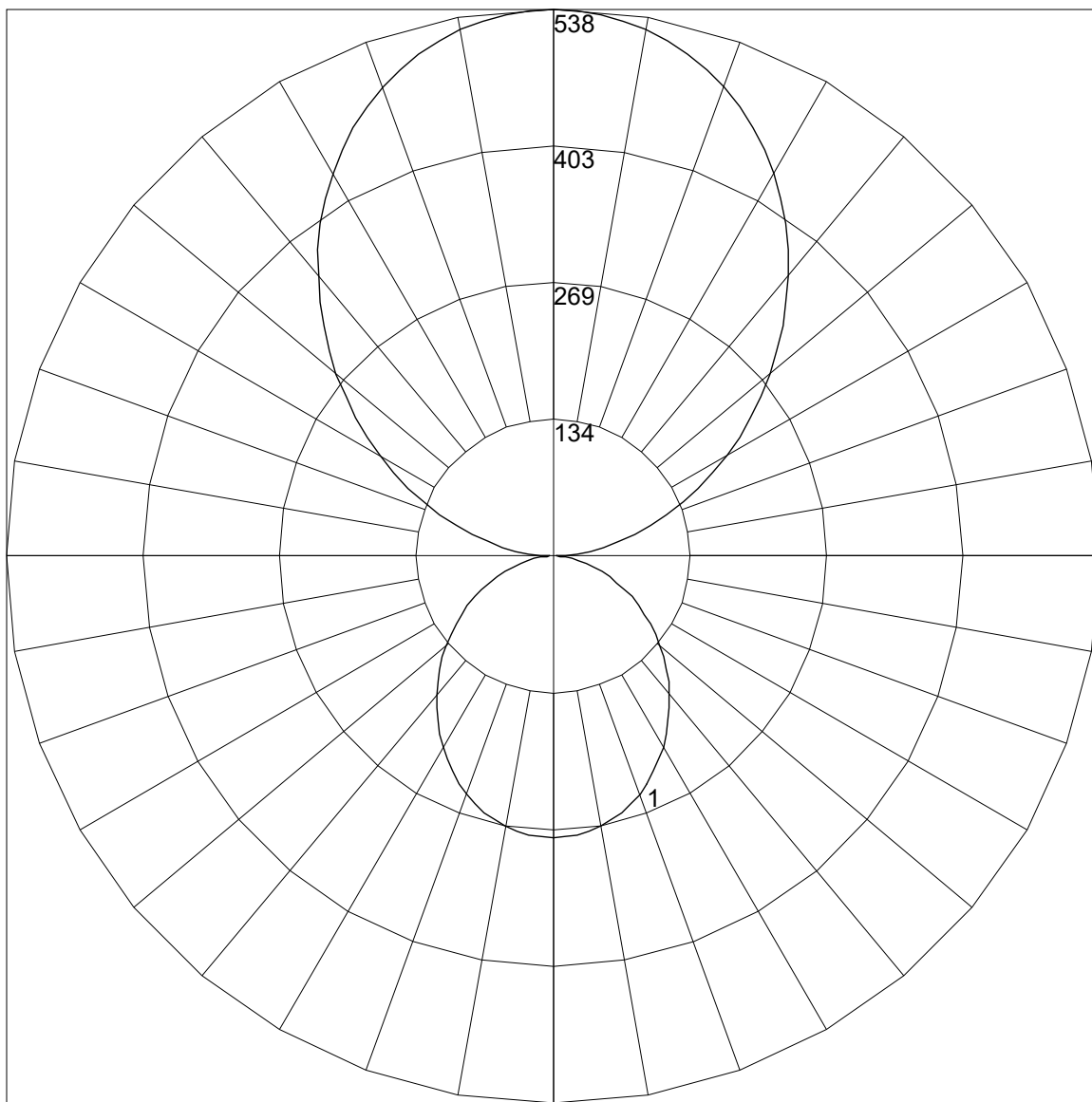
PHOTOMETRIC FILENAME : 2D90 - HP-4C-ID-P-18IN7-8IN-V-B-835-ITL93249.037.IES

## 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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33
1	94	90	86	82	84	81	78	75	65	62	60	50	48	47	36	35	34	28
2	86	78	72	67	77	71	66	61	57	53	50	43	41	39	31	30	29	23
3	78	69	62	56	70	62	56	51	50	46	42	38	36	33	28	26	24	20
4	71	61	53	47	64	55	49	43	44	40	36	34	31	28	25	23	21	17
5	65	54	46	41	59	49	42	37	40	35	31	31	27	25	22	20	18	15
6	60	49	41	35	54	44	37	32	36	31	27	28	24	21	20	18	16	13
7	56	44	36	31	50	40	33	28	32	27	24	25	22	19	19	16	14	12
8	52	40	32	27	46	36	29	25	29	24	21	23	19	17	17	15	13	10
9	48	36	29	24	43	33	26	22	27	22	19	21	18	15	16	13	12	9
10	45	33	26	21	40	30	24	20	25	20	17	20	16	14	15	12	11	9

POLAR GRAPH



Maximum Candela = 537.592 Located At Horizontal Angle = 0, Vertical Angle = 180  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)