

# 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-S-V-835-ITL93249.045.IES

### DESCRIPTION INFORMATION (From Photometric File)

[TEST]ITL93249.045 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-S-V-835

[\_INPUT\_ELECTRICAL]120.0 VOLTS, 18.7 WATTS

[\_INPUT\_ELECTRICAL]277.0 VOLTS, 19.2 WATTS

[\_ABSOLUTE]LUMENS]1892

[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	1894
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	101
Total Luminaire Watts	18.7
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.28
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	4544	4668	4914
55	4024	4176	4466
65	3517	3657	4030
75	2991	3072	3493
85	2560	2512	2921

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## 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	537.592	537.592	537.592	537.592	537.592	537.592	537.592	537.592	537.592
2.5	537.127	537.127	537.592	537.127	536.662	536.662	536.662	536.197	536.197
5.0	534.802	534.802	534.802	534.802	534.337	533.872	533.407	532.942	532.942
7.5	531.081	530.616	530.616	530.616	529.686	529.221	528.291	527.826	526.896
10.0	524.106	524.571	524.571	524.571	523.641	522.711	521.780	520.850	520.385
12.5	516.665	516.200	516.200	516.665	516.200	514.340	513.410	511.550	511.084
15.0	505.969	506.899	505.969	507.364	507.364	505.039	503.179	500.853	498.993
17.5	492.948	494.343	494.343	495.738	495.738	493.413	490.157	487.832	485.972
20.0	479.926	481.322	481.787	482.717	483.647	480.392	477.136	472.951	472.021
22.5	465.045	465.975	466.905	469.230	470.161	465.975	462.255	457.604	456.674
25.0	449.233	450.164	451.094	454.349	454.349	451.094	446.908	440.863	438.537
27.5	431.562	432.027	434.352	437.607	438.072	434.352	428.772	424.121	421.331
30.0	413.890	414.820	417.610	419.936	421.331	416.680	411.565	405.054	404.124
32.5	393.893	396.683	398.544	402.729	403.659	398.079	393.893	386.917	384.592
35.0	374.826	376.687	379.477	383.662	383.662	379.942	374.361	368.316	365.525
37.5	355.759	357.620	360.410	364.130	365.060	361.805	355.294	349.249	346.924
40.0	336.693	337.623	340.413	345.528	346.459	342.273	336.693	328.787	326.462
42.5	315.300	317.161	320.881	325.531	326.462	323.671	317.161	310.185	307.395
45.0	295.304	297.164	300.419	304.604	306.465	303.674	296.234	290.188	287.863
47.5	275.772	277.167	280.422	285.073	286.468	283.212	276.237	270.191	268.796
50.0	255.310	258.100	260.890	266.006	266.936	263.680	256.705	251.124	248.799
52.5	236.243	237.638	240.893	246.009	246.939	244.149	238.103	231.592	231.592
55.0	216.246	218.571	221.361	225.082	226.477	225.082	218.571	213.456	211.595
57.5	198.109	199.969	201.364	206.015	207.410	204.620	198.574	194.854	193.459
60.0	179.972	180.438	182.763	186.948	188.808	186.483	180.903	176.252	174.392
62.5	162.301	162.766	164.161	168.346	169.276	167.416	162.301	159.045	157.185
65.0	143.699	144.629	146.489	148.814	151.140	148.814	145.094	141.374	140.444
67.5	127.422	128.352	128.352	131.143	132.538	131.608	126.492	124.632	124.167
70.0	111.146	111.611	110.681	113.936	114.401	113.471	110.216	108.820	107.425
72.5	95.799	95.334	94.869	96.729	97.194	97.194	94.404	93.009	92.079
75.0	79.988	80.453	79.523	79.988	80.918	80.918	79.523	77.662	78.128
77.5	66.501	66.501	64.176	65.106	64.176	65.571	64.176	64.176	64.641
80.0	53.480	53.480	50.690	51.155	49.295	51.620	50.690	51.620	51.155
82.5	41.854	40.924	38.599	38.134	36.273	38.134	38.599	39.529	39.994
85.0	30.228	29.763	27.438	25.578	23.717	26.043	27.438	28.368	29.298
87.5	20.927	19.997	16.277	15.347	12.556	14.416	16.742	19.067	19.997
90.0	14.416	13.486	10.231	8.371	5.580	6.976	9.301	12.556	13.486
92.5	8.186	7.805	6.853	5.711	4.950	5.140	6.473	7.424	7.995
95.0	12.945	12.564	11.422	10.280	9.899	9.709	11.041	11.993	12.564
97.5	18.276	18.085	16.753	15.420	15.039	15.039	15.991	17.133	17.514
100.0	24.558	23.987	22.654	21.702	20.750	20.941	21.512	22.654	23.225
102.5	30.650	30.078	29.127	27.984	27.032	27.223	27.984	28.555	29.127
105.0	37.122	36.741	35.599	34.838	33.886	33.886	34.267	35.599	35.599
107.5	43.975	43.785	42.643	41.691	40.930	41.501	41.120	42.072	42.262
110.0	51.019	51.209	49.687	49.496	48.735	48.925	47.973	48.925	49.687
112.5	58.824	58.444	57.492	57.682	56.540	56.349	55.778	56.730	56.921
115.0	66.249	65.868	65.297	65.106	64.345	63.774	63.964	64.345	64.155
117.5	73.864	73.483	73.292	72.721	72.531	71.579	71.579	71.960	71.769
120.0	81.478	82.049	81.478	80.907	80.526	80.146	79.384	79.765	79.004
122.5	90.045	90.616	89.855	88.903	88.903	88.141	87.570	87.761	86.809
125.0	98.231	98.992	98.612	97.089	96.898	96.327	95.947	95.185	94.614
127.5	106.036	107.559	106.798	106.227	105.084	103.942	103.752	102.609	102.419
130.0	114.412	116.126	114.984	114.793	114.032	112.318	111.557	110.986	110.415
132.5	123.360	124.502	123.360	122.979	122.218	120.504	119.362	118.981	118.220

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 2D90 - HP-4C-ID-P-18IN7-8IN-S-V-835-ITL93249.045.IES****CANDELA TABULATION - (Cont.)**

<b>135.0</b>	131.546	132.498	131.926	131.165	130.784	129.071	127.738	127.358	126.977
<b>137.5</b>	139.732	140.493	140.493	139.351	138.780	137.066	136.114	135.353	134.972
<b>140.0</b>	148.489	148.489	148.298	147.727	146.966	145.443	143.920	143.539	142.778
<b>142.5</b>	156.103	156.294	156.103	155.532	155.532	153.438	152.106	151.344	150.583
<b>145.0</b>	163.528	163.718	163.718	162.957	163.338	161.053	160.101	159.149	158.769
<b>147.5</b>	171.333	171.143	170.762	170.000	170.571	168.477	167.335	166.764	166.193
<b>150.0</b>	177.996	177.996	177.806	177.234	177.425	175.521	174.760	174.189	173.237
<b>152.5</b>	184.278	184.659	184.088	183.707	184.088	182.565	181.423	180.851	179.900
<b>155.0</b>	190.560	190.941	190.180	189.799	190.370	188.847	187.705	187.324	186.753
<b>157.5</b>	196.081	196.462	195.700	195.129	195.891	194.368	193.987	193.416	192.654
<b>160.0</b>	200.650	201.031	200.460	200.460	200.650	199.508	199.127	198.746	197.985
<b>162.5</b>	204.838	205.409	205.219	204.648	205.219	204.457	204.077	203.696	203.315
<b>165.0</b>	208.836	209.217	209.026	208.645	209.217	208.265	208.074	207.884	207.503
<b>167.5</b>	212.453	212.262	212.262	212.072	212.453	212.072	211.882	211.691	211.501
<b>170.0</b>	215.118	215.118	214.928	215.309	215.118	214.737	214.737	214.737	214.737
<b>172.5</b>	217.403	217.212	217.212	217.403	217.212	217.212	217.212	217.022	217.022
<b>175.0</b>	218.925	218.735	218.735	218.735	218.735	218.735	218.735	218.735	218.925
<b>177.5</b>	219.687	219.687	219.687	219.687	219.687	219.687	219.687	219.687	219.687
<b>180.0</b>	220.068	220.068	220.068	220.068	220.068	220.068	220.068	220.068	220.068

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 2D90 - HP-4C-ID-P-18IN7-8IN-S-V-835-ITL93249.045.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	192.70	N.A.	10.20
0-30	399.28	N.A.	21.10
0-40	635.18	N.A.	33.50
0-60	1063.07	N.A.	56.10
0-80	1292.78	N.A.	68.30
0-90	1323.74	N.A.	69.90
10-90	1273.11	N.A.	67.20
20-40	442.48	N.A.	23.40
20-50	673.15	N.A.	35.50
40-70	572.81	N.A.	30.20
60-80	229.71	N.A.	12.10
70-80	84.79	N.A.	4.50
80-90	30.96	N.A.	1.60
90-110	51.05	N.A.	2.70
90-120	115.21	N.A.	6.10
90-130	201.89	N.A.	10.70
90-150	403.31	N.A.	21.30
90-180	569.93	N.A.	30.10
110-180	518.88	N.A.	27.40
0-180	1893.67	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	50.63
10-20	142.07
20-30	206.59
30-40	235.89
40-50	230.67
50-60	197.22
60-70	144.92
70-80	84.79
80-90	30.96
90-100	13.71
100-110	37.34
110-120	64.16
120-130	86.68
130-140	100.24
140-150	101.18
150-160	87.07
160-170	58.79
170-180	20.76

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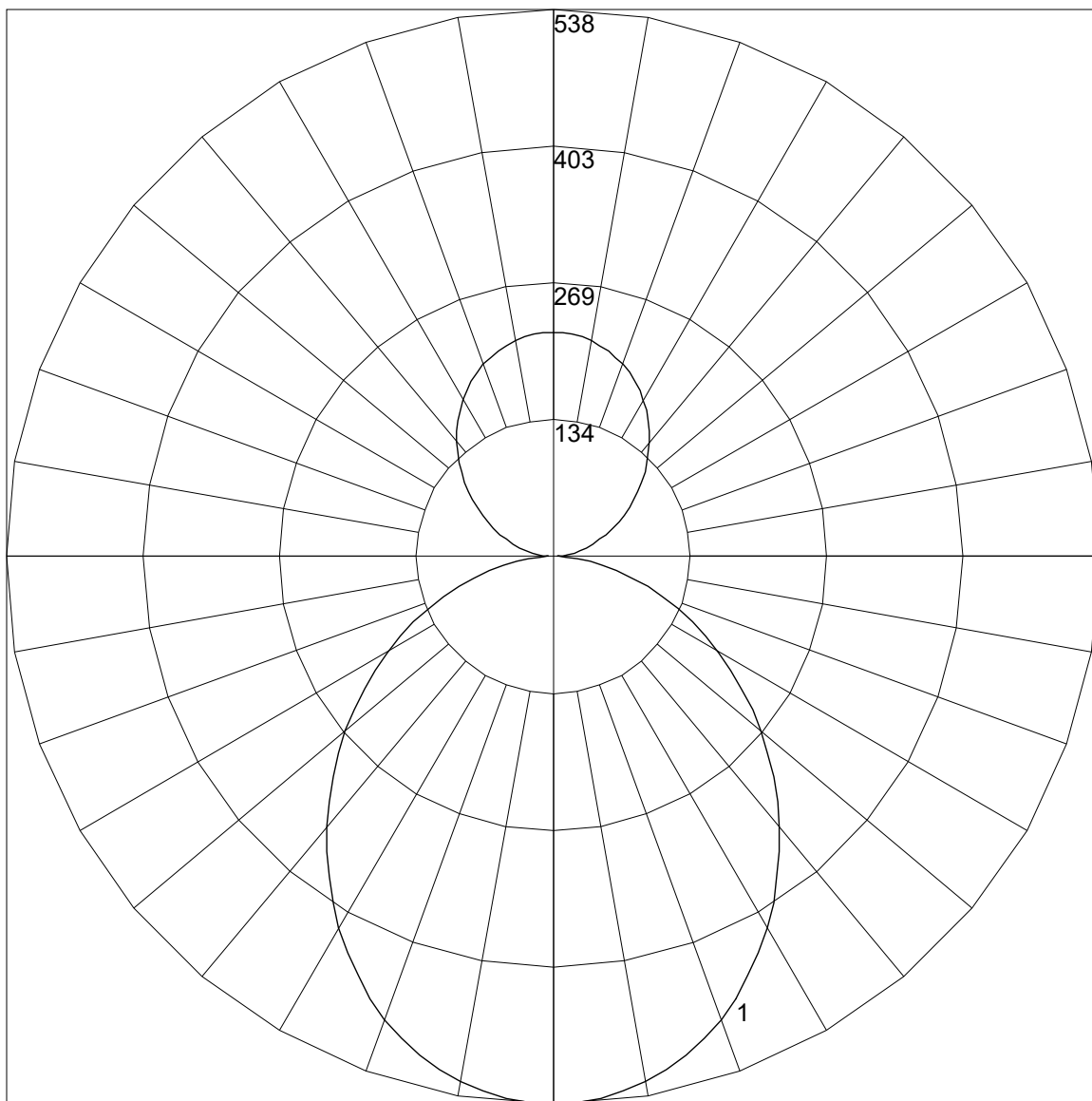
PHOTOMETRIC FILENAME : 2D90 - HP-4C-ID-P-18IN7-8IN-S-V-835-ITL93249.045.IES

## 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	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74	70
1	102	98	94	90	96	92	89	86	83	80	78	74	72	70	66	64	63	59
2	93	85	79	74	88	81	75	71	73	68	64	65	62	59	58	55	53	49
3	85	75	68	62	80	71	65	59	64	59	54	58	53	50	51	48	45	42
4	78	67	59	52	73	63	56	50	57	51	46	51	47	43	46	42	39	36
5	72	60	51	45	68	57	49	44	51	45	40	46	41	37	42	37	34	31
6	66	54	45	39	62	51	44	38	46	40	35	42	37	33	38	34	30	28
7	61	49	40	35	58	46	39	34	42	36	31	38	33	29	35	30	27	25
8	57	44	36	31	54	42	35	30	39	32	28	35	30	26	32	27	24	22
9	53	41	33	28	50	39	32	27	36	29	25	32	27	24	29	25	22	20
10	50	37	30	25	47	36	29	24	33	27	23	30	25	21	27	23	20	18

POLAR GRAPH



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