

# 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-B-V-835-ITL93249.042.IES

### DESCRIPTION INFORMATION (From Photometric File)

[TEST]ITL93249.042 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-B-V-835

[\_INPUT\_ELECTRICAL]120.0 VOLTS, 19.9 WATTS

[\_INPUT\_ELECTRICAL]277.0 VOLTS, 20.3 WATTS

[\_ABSOLUTE]LUMENS]2039

[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	2040
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	102
Total Luminaire Watts	19.9
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	10.286	9.807	8.611	7.176	6.219	6.458	8.133	9.329	10.047
95.0	16.266	15.787	14.352	12.917	12.439	12.200	13.874	15.070	15.787
97.5	22.964	22.724	21.050	19.376	18.897	18.897	20.093	21.529	22.007
100.0	30.857	30.140	28.465	27.269	26.073	26.313	27.030	28.465	29.183
102.5	38.512	37.794	36.598	35.163	33.967	34.206	35.163	35.881	36.598
105.0	46.645	46.167	44.731	43.775	42.578	42.578	43.057	44.731	44.731
107.5	55.256	55.017	53.582	52.386	51.429	52.147	51.668	52.864	53.103
110.0	64.107	64.346	62.432	62.193	61.236	61.476	60.280	61.476	62.432
112.5	73.914	73.436	72.240	72.479	71.044	70.805	70.087	71.283	71.522
115.0	83.243	82.765	82.047	81.808	80.851	80.134	80.373	80.851	80.612
117.5	92.811	92.333	92.094	91.376	91.137	89.941	89.941	90.419	90.180
120.0	102.380	103.097	102.380	101.662	101.184	100.705	99.749	100.227	99.270
122.5	113.144	113.862	112.905	111.709	111.709	110.752	110.034	110.273	109.078
125.0	123.430	124.387	123.908	121.995	121.755	121.038	120.559	119.603	118.885
127.5	133.237	135.151	134.194	133.476	132.041	130.606	130.367	128.931	128.692
130.0	143.762	145.915	144.480	144.241	143.284	141.131	140.174	139.457	138.739
132.5	155.005	156.440	155.005	154.526	153.570	151.417	149.982	149.503	148.546

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 2D90 - HP-4C-ID-P-18IN7-8IN-B-V-835-ITL93249.042.IES****CANDELA TABULATION - (Cont.)**

<b>135.0</b>	165.291	166.487	165.769	164.812	164.334	162.181	160.507	160.028	159.550
<b>137.5</b>	175.577	176.533	176.533	175.098	174.380	172.228	171.032	170.075	169.596
<b>140.0</b>	186.580	186.580	186.341	185.623	184.666	182.753	180.839	180.361	179.404
<b>142.5</b>	196.148	196.387	196.148	195.430	195.430	192.799	191.125	190.168	189.211
<b>145.0</b>	205.477	205.716	205.716	204.760	205.238	202.367	201.171	199.975	199.497
<b>147.5</b>	215.285	215.045	214.567	213.610	214.328	211.696	210.261	209.544	208.826
<b>150.0</b>	223.657	223.657	223.417	222.700	222.939	220.547	219.590	218.873	217.677
<b>152.5</b>	231.550	232.029	231.311	230.833	231.311	229.398	227.962	227.245	226.049
<b>155.0</b>	239.444	239.923	238.966	238.487	239.205	237.291	235.856	235.378	234.660
<b>157.5</b>	246.381	246.860	245.903	245.185	246.142	244.228	243.750	243.032	242.076
<b>160.0</b>	252.122	252.601	251.883	251.883	252.122	250.687	250.208	249.730	248.773
<b>162.5</b>	257.385	258.102	257.863	257.145	257.863	256.906	256.428	255.949	255.471
<b>165.0</b>	262.408	262.886	262.647	262.169	262.886	261.690	261.451	261.212	260.733
<b>167.5</b>	266.953	266.714	266.714	266.474	266.953	266.474	266.235	265.996	265.757
<b>170.0</b>	270.302	270.302	270.062	270.541	270.302	269.823	269.823	269.823	269.823
<b>172.5</b>	273.172	272.933	272.933	273.172	272.933	272.933	272.933	272.694	272.694
<b>175.0</b>	275.086	274.847	274.847	274.847	274.847	274.847	274.847	274.847	275.086
<b>177.5</b>	276.043	276.043	276.043	276.043	276.043	276.043	276.043	276.043	276.043
<b>180.0</b>	276.521	276.521	276.521	276.521	276.521	276.521	276.521	276.521	276.521

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 2D90 - HP-4C-ID-P-18IN7-8IN-B-V-835-ITL93249.042.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	192.70	N.A.	9.40
0-30	399.28	N.A.	19.60
0-40	635.18	N.A.	31.10
0-60	1063.07	N.A.	52.10
0-80	1292.78	N.A.	63.40
0-90	1323.74	N.A.	64.90
10-90	1273.11	N.A.	62.40
20-40	442.48	N.A.	21.70
20-50	673.15	N.A.	33.00
40-70	572.81	N.A.	28.10
60-80	229.71	N.A.	11.30
70-80	84.79	N.A.	4.20
80-90	30.96	N.A.	1.50
90-110	63.79	N.A.	3.10
90-120	144.41	N.A.	7.10
90-130	253.32	N.A.	12.40
90-150	506.41	N.A.	24.80
90-180	715.78	N.A.	35.10
110-180	651.99	N.A.	32.00
0-180	2039.52	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	16.87
100-110	46.92
110-120	80.62
120-130	108.92
130-140	125.95
140-150	127.14
150-160	109.40
160-170	73.87
170-180	26.09

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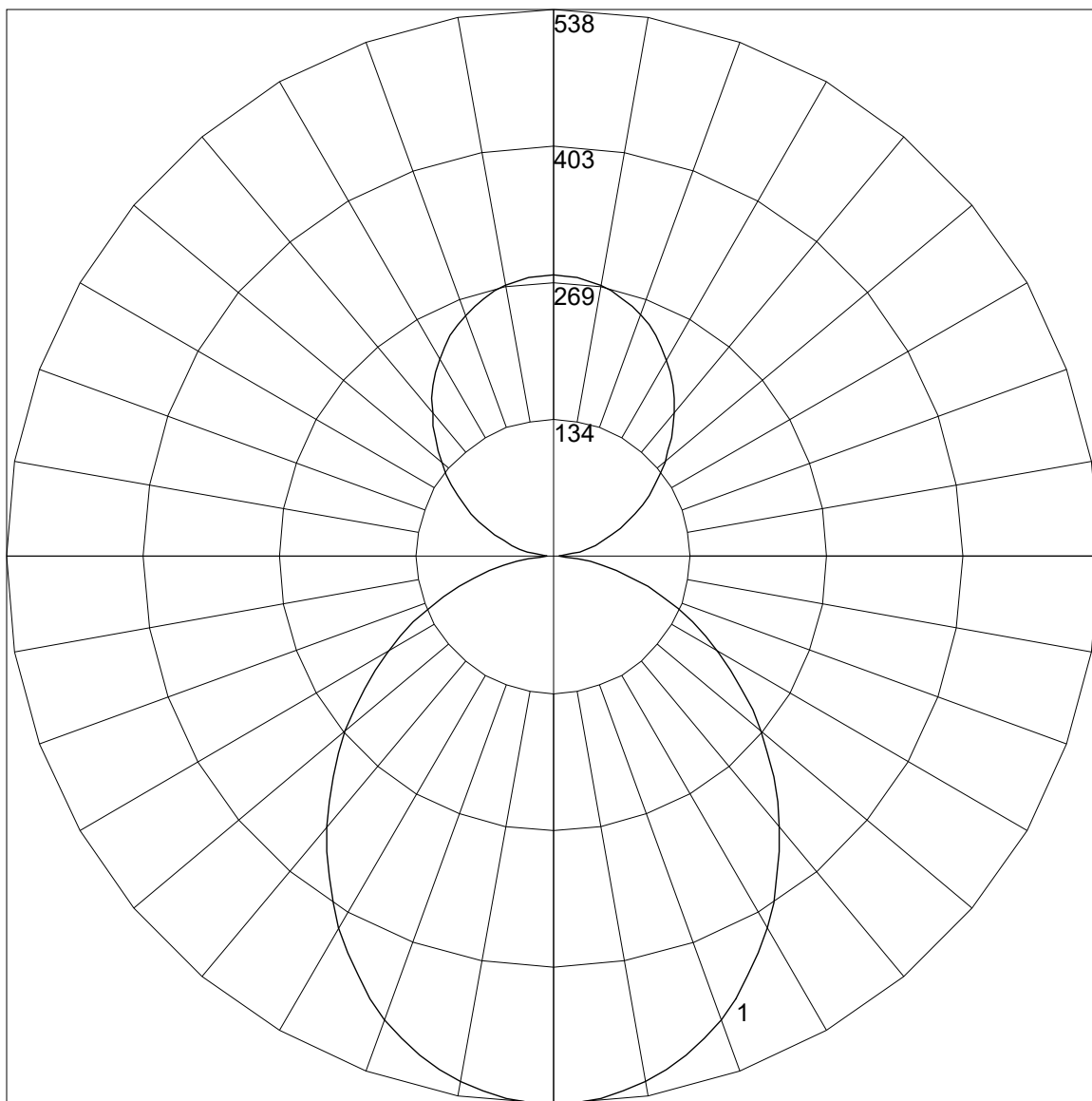
PHOTOMETRIC FILENAME : 2D90 - HP-4C-ID-P-18IN7-8IN-B-V-835-ITL93249.042.IES

## 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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	101	97	93	89	95	91	87	84	80	78	75	71	69	67	62	60	59	54
2	92	84	78	73	86	80	74	69	70	66	62	62	59	56	54	52	50	46
3	84	74	67	61	79	70	63	58	62	57	53	55	51	47	48	45	42	39
4	77	66	58	52	72	62	55	49	55	50	45	49	45	41	43	40	37	33
5	71	59	51	44	66	56	48	43	50	44	39	44	39	36	39	35	32	29
6	65	53	45	39	61	50	43	37	45	39	34	40	35	31	35	31	28	26
7	61	48	40	34	57	46	38	33	41	35	30	37	32	28	32	28	25	23
8	56	44	36	30	53	42	34	29	37	31	27	34	29	25	30	26	23	20
9	53	40	32	27	49	38	31	26	34	28	24	31	26	22	28	24	21	19
10	49	37	29	25	46	35	28	24	32	26	22	29	24	20	26	22	19	17

POLAR GRAPH



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