

# 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 : 3D90 - HP-4C-ID-P-28IN9-16IN-B-V-835-ITL93249.026.IES

### DESCRIPTION INFORMATION (From Photometric File)

[TEST]ITL93249.026 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-37in11-16in-B-V-835

[\_INPUT\_ELECTRICAL]120.0 VOLTS, 33.4 WATTS

[\_INPUT\_ELECTRICAL]277.0 VOLTS, 34.0 WATTS

[\_ABSOLUTE]LUMENS]3446

[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	3447
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	103
Total Luminaire Watts	33.4
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	7680	7890	8305
55	6801	7057	7549
65	5944	6181	6811
75	5056	5193	5904
85	4327	4245	4936

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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	908.598	908.597	908.597	908.597	908.597	908.597	908.597	908.597	908.597
2.5	907.812	907.812	908.597	907.812	907.025	907.025	907.025	906.240	906.240
5.0	903.882	903.882	903.882	903.882	903.096	902.310	901.524	900.738	900.738
7.5	897.594	896.808	896.808	896.808	895.236	894.450	892.878	892.092	890.520
10.0	885.804	886.590	886.590	886.590	885.018	883.446	881.874	880.302	879.516
12.5	873.228	872.442	872.442	873.228	872.442	869.298	867.726	864.582	863.796
15.0	855.151	856.722	855.151	857.509	857.509	853.579	850.435	846.505	843.361
17.5	833.143	835.501	835.501	837.859	837.859	833.929	828.427	824.497	821.353
20.0	811.135	813.494	814.279	815.851	817.423	811.921	806.420	799.346	797.774
22.5	785.984	787.556	789.128	793.058	794.630	787.556	781.268	773.408	771.836
25.0	759.261	760.832	762.404	767.906	767.906	762.404	755.331	745.113	741.183
27.5	729.393	730.179	734.109	739.611	740.397	734.109	724.677	716.817	712.101
30.0	699.526	701.098	705.814	709.744	712.101	704.242	695.596	684.592	683.020
32.5	665.729	670.444	673.588	680.662	682.234	672.802	665.729	653.939	650.009
35.0	633.503	636.647	641.363	648.437	648.437	642.149	632.717	622.499	617.783
37.5	601.278	604.422	609.138	615.426	616.997	611.495	600.492	590.274	586.344
40.0	569.052	570.624	575.340	583.986	585.558	578.484	569.052	555.691	551.761
42.5	532.897	536.041	542.329	550.189	551.761	547.045	536.041	524.251	519.535
45.0	499.100	502.244	507.746	514.819	517.963	513.248	500.672	490.454	486.524
47.5	466.089	468.447	473.948	481.808	484.166	478.664	466.875	456.657	454.299
50.0	431.505	436.221	440.937	449.583	451.155	445.653	433.863	424.431	420.501
52.5	399.280	401.638	407.140	415.786	417.358	412.642	402.424	391.420	391.420
55.0	365.483	369.413	374.128	380.416	382.774	380.416	369.413	360.767	357.623
57.5	334.829	337.973	340.331	348.191	350.549	345.833	335.615	329.327	326.969
60.0	304.176	304.962	308.892	315.966	319.110	315.180	305.748	297.888	294.744
62.5	274.308	275.094	277.452	284.526	286.098	282.954	274.308	268.807	265.663
65.0	242.869	244.441	247.585	251.515	255.445	251.515	245.227	238.939	237.367
67.5	215.360	216.932	216.932	221.648	224.005	222.434	213.788	210.644	209.858
70.0	187.850	188.636	187.064	192.566	193.352	191.780	186.278	183.920	181.562
72.5	161.913	161.127	160.341	163.485	164.271	164.271	159.555	157.197	155.625
75.0	135.189	135.975	134.403	135.189	136.761	136.761	134.403	131.259	132.045
77.5	112.396	112.396	108.466	110.038	108.466	110.824	108.466	108.466	109.252
80.0	90.388	90.388	85.672	86.458	83.314	87.244	85.672	87.244	86.458
82.5	70.739	69.167	65.237	64.451	61.307	64.451	65.237	66.809	67.595
85.0	51.089	50.303	46.373	43.229	40.085	44.015	46.373	47.945	49.517
87.5	35.369	33.797	27.509	25.938	21.222	24.366	28.295	32.225	33.797
90.0	24.366	22.794	17.292	14.148	9.432	11.790	15.720	21.222	22.794
92.5	17.389	16.580	14.558	12.132	10.514	10.918	13.749	15.771	16.984
95.0	27.498	26.689	24.263	21.837	21.028	20.624	23.454	25.476	26.689
97.5	38.821	38.417	35.586	32.755	31.947	31.947	33.968	36.395	37.204
100.0	52.166	50.953	48.122	46.100	44.078	44.483	45.696	48.122	49.335
102.5	65.106	63.893	61.871	59.445	57.423	57.827	59.445	60.658	61.871
105.0	78.856	78.047	75.620	74.003	71.981	71.981	72.790	75.620	75.620
107.5	93.413	93.009	90.583	88.561	86.943	88.156	87.348	89.370	89.774
110.0	108.376	108.780	105.545	105.141	103.523	103.927	101.906	103.927	105.545
112.5	124.956	124.147	122.125	122.529	120.103	119.699	118.485	120.507	120.912
115.0	140.727	139.918	138.705	138.300	136.683	135.470	135.874	136.683	136.278
117.5	156.902	156.093	155.689	154.476	154.071	152.049	152.049	152.858	152.454
120.0	173.078	174.291	173.078	171.864	171.056	170.247	168.629	169.438	167.821
122.5	191.275	192.488	190.871	188.849	188.849	187.231	186.018	186.422	184.400
125.0	208.664	210.281	209.472	206.237	205.833	204.620	203.811	202.194	200.980
127.5	225.244	228.479	226.861	225.648	223.222	220.795	220.391	217.965	217.560
130.0	243.037	246.676	244.250	243.845	242.228	238.588	236.971	235.758	234.544
132.5	262.043	264.469	262.043	261.234	259.616	255.977	253.551	252.742	251.124

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 3D90 - HP-4C-ID-P-28IN9-16IN-B-V-835-ITL93249.026.IES****CANDELA TABULATION - (Cont.)**

<b>135.0</b>	279.431	281.453	280.240	278.623	277.814	274.174	271.344	270.535	269.726
<b>137.5</b>	296.820	298.438	298.438	296.011	294.798	291.159	289.137	287.519	286.710
<b>140.0</b>	315.422	315.422	315.017	313.804	312.187	308.952	305.717	304.908	303.290
<b>142.5</b>	331.597	332.002	331.597	330.384	330.384	325.936	323.105	321.488	319.870
<b>145.0</b>	347.368	347.773	347.773	346.155	346.964	342.111	340.089	338.067	337.259
<b>147.5</b>	363.948	363.544	362.735	361.118	362.331	357.882	355.456	354.243	353.030
<b>150.0</b>	378.102	378.102	377.697	376.484	376.889	372.845	371.227	370.014	367.992
<b>152.5</b>	391.447	392.255	391.042	390.233	391.042	387.807	385.381	384.168	382.146
<b>155.0</b>	404.791	405.600	403.983	403.174	404.387	401.152	398.726	397.917	396.704
<b>157.5</b>	416.519	417.327	415.710	414.497	416.114	412.879	412.070	410.857	409.240
<b>160.0</b>	426.224	427.033	425.820	425.820	426.224	423.798	422.989	422.180	420.563
<b>162.5</b>	435.120	436.334	435.929	434.716	435.929	434.312	433.503	432.694	431.885
<b>165.0</b>	443.613	444.421	444.017	443.208	444.421	442.399	441.995	441.591	440.782
<b>167.5</b>	451.296	450.892	450.892	450.487	451.296	450.487	450.083	449.678	449.274
<b>170.0</b>	456.957	456.957	456.553	457.362	456.957	456.149	456.149	456.149	456.149
<b>172.5</b>	461.810	461.406	461.406	461.810	461.406	461.406	461.406	461.001	461.001
<b>175.0</b>	465.045	464.641	464.641	464.641	464.641	464.641	464.641	464.641	465.045
<b>177.5</b>	466.663	466.663	466.663	466.663	466.663	466.663	466.663	466.663	466.663
<b>180.0</b>	467.471	467.471	467.471	467.471	467.471	467.471	467.471	467.471	467.471

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Zone	Lumens	%Lamp	%Fixt
0-20	325.68	N.A.	9.40
0-30	674.84	N.A.	19.60
0-40	1073.53	N.A.	31.10
0-60	1796.72	N.A.	52.10
0-80	2184.96	N.A.	63.40
0-90	2237.29	N.A.	64.90
10-90	2151.72	N.A.	62.40
20-40	747.85	N.A.	21.70
20-50	1137.71	N.A.	33.00
40-70	968.13	N.A.	28.10
60-80	388.24	N.A.	11.30
70-80	143.30	N.A.	4.20
80-90	52.33	N.A.	1.50
90-110	107.84	N.A.	3.10
90-120	244.13	N.A.	7.10
90-130	428.25	N.A.	12.40
90-150	856.11	N.A.	24.80
90-180	1210.05	N.A.	35.10
110-180	1102.21	N.A.	32.00
0-180	3447.34	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	85.57
10-20	240.11
20-30	349.16
30-40	398.69
40-50	389.87
50-60	333.32
60-70	244.94
70-80	143.30
80-90	52.33
90-100	28.53
100-110	79.31
110-120	136.29
120-130	184.13
130-140	212.92
140-150	214.94
150-160	184.95
160-170	124.89
170-180	44.10

# IES INDOOR REPORT

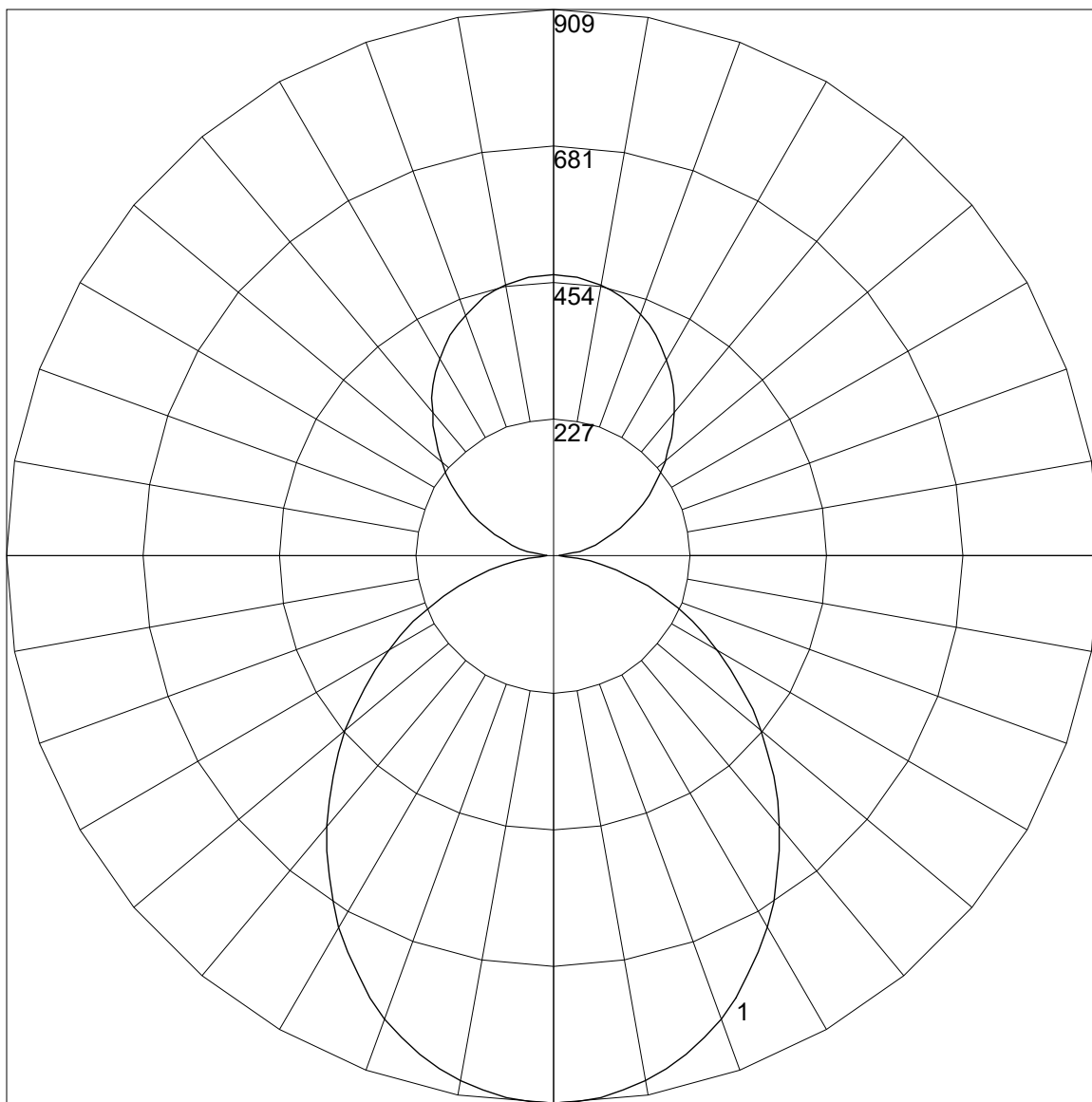
PHOTOMETRIC FILENAME : 3D90 - HP-4C-ID-P-28IN9-16IN-B-V-835-ITL93249.026.IES

## 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	55
2	92	84	78	73	86	80	74	69	71	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	56	50	45	49	45	41	43	40	37	33
5	71	59	51	45	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 = 908.598 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)