

# 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-V-V-8TW-ITL93249.916.IES

### DESCRIPTION INFORMATION (From Photometric File)

[TEST]ITL93249.916 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-V-V-8TW

[\_INPUT\_ELECTRICAL]120.0 VOLTS, 46.9 WATTS

[\_INPUT\_ELECTRICAL]277.0 VOLTS, 47.1 WATTS

[\_ABSOLUTE]LUMENS]4587

[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	4587
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	98
Total Luminaire Watts	46.9
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 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

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	33.797	32.225	28.295	23.579	20.436	21.222	26.724	30.653	33.011
95.0	53.447	51.875	47.159	42.443	40.871	40.085	45.587	49.517	51.875
97.5	75.454	74.668	69.167	63.665	62.093	62.093	66.023	70.739	72.311
100.0	101.392	99.034	93.532	89.602	85.672	86.458	88.816	93.532	95.890
102.5	126.543	124.186	120.256	115.540	111.610	112.396	115.540	117.898	120.256
105.0	153.267	151.695	146.979	143.835	139.905	139.905	141.477	146.979	146.979
107.5	181.562	180.776	176.060	172.131	168.987	171.345	169.773	173.702	174.488
110.0	210.644	211.430	205.142	204.356	201.212	201.998	198.068	201.998	205.142
112.5	242.869	241.297	237.367	238.153	233.437	232.651	230.293	234.223	235.009
115.0	273.522	271.950	269.592	268.807	265.663	263.305	264.091	265.663	264.877
117.5	304.962	303.390	302.604	300.246	299.460	295.530	295.530	297.102	296.316
120.0	336.401	338.759	336.401	334.043	332.471	330.899	327.755	329.327	326.183
122.5	371.770	374.128	370.984	367.055	367.055	363.911	361.553	362.339	358.409
125.0	405.568	408.712	407.140	400.852	400.066	397.708	396.136	392.992	390.634
127.5	437.793	444.081	440.937	438.579	433.863	429.147	428.361	423.645	422.859
130.0	472.376	479.450	474.734	473.948	470.804	463.731	460.587	458.229	455.871
132.5	509.318	514.034	509.318	507.746	504.602	497.528	492.812	491.240	488.096

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 3D90 - HP-4C-ID-P-28IN9-16IN-V-V-8TW-ITL93249.916.IES****CANDELA TABULATION - (Cont.)**

135.0	543.115	547.045	544.687	541.543	539.971	532.897	527.395	525.823	524.251
137.5	576.912	580.056	580.056	575.340	572.982	565.909	561.979	558.835	557.263
140.0	613.067	613.067	612.282	609.924	606.780	600.492	594.204	592.632	589.488
142.5	644.507	645.293	644.507	642.149	642.149	633.503	628.001	624.857	621.713
145.0	675.160	675.946	675.946	672.802	674.374	664.942	661.013	657.083	655.511
147.5	707.386	706.600	705.028	701.884	704.242	695.596	690.880	688.522	686.164
150.0	734.895	734.895	734.109	731.751	732.537	724.677	721.533	719.175	715.245
152.5	760.832	762.404	760.047	758.475	760.047	753.759	749.043	746.685	742.755
155.0	786.770	788.342	785.198	783.626	785.984	779.696	774.980	773.408	771.050
157.5	809.563	811.135	807.992	805.634	808.778	802.490	800.918	798.560	795.416
160.0	828.427	829.999	827.641	827.641	828.427	823.711	822.139	820.567	817.423
162.5	845.719	848.077	847.291	844.933	847.291	844.147	842.575	841.003	839.431
165.0	862.224	863.796	863.010	861.438	863.796	859.866	859.081	858.295	856.722
167.5	877.158	876.372	876.372	875.586	877.158	875.586	874.800	874.014	873.228
170.0	888.162	888.162	887.376	888.948	888.162	886.590	886.590	886.590	886.590
172.5	897.594	896.808	896.808	897.594	896.808	896.808	896.808	896.022	896.022
175.0	903.882	903.096	903.096	903.096	903.096	903.096	903.096	903.096	903.882
177.5	907.025	907.025	907.025	907.025	907.025	907.025	907.025	907.025	907.025
180.0	908.597	908.597	908.597	908.597	908.597	908.597	908.597	908.597	908.597

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 3D90 - HP-4C-ID-P-28IN9-16IN-V-V-8TW-ITL93249.916.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	325.68	N.A.	7.10
0-30	674.84	N.A.	14.70
0-40	1073.53	N.A.	23.40
0-60	1796.72	N.A.	39.20
0-80	2184.96	N.A.	47.60
0-90	2237.29	N.A.	48.80
10-90	2151.72	N.A.	46.90
20-40	747.85	N.A.	16.30
20-50	1137.71	N.A.	24.80
40-70	968.13	N.A.	21.10
60-80	388.24	N.A.	8.50
70-80	143.30	N.A.	3.10
80-90	52.33	N.A.	1.10
90-110	207.41	N.A.	4.50
90-120	472.30	N.A.	10.30
90-130	830.17	N.A.	18.10
90-150	1661.78	N.A.	36.20
90-180	2349.71	N.A.	51.20
110-180	2142.31	N.A.	46.70
0-180	4587.00	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	53.25
100-110	154.16
110-120	264.89
120-130	357.88
130-140	413.85
140-150	417.76
150-160	359.47
160-170	242.74
170-180	85.72

# IES INDOOR REPORT

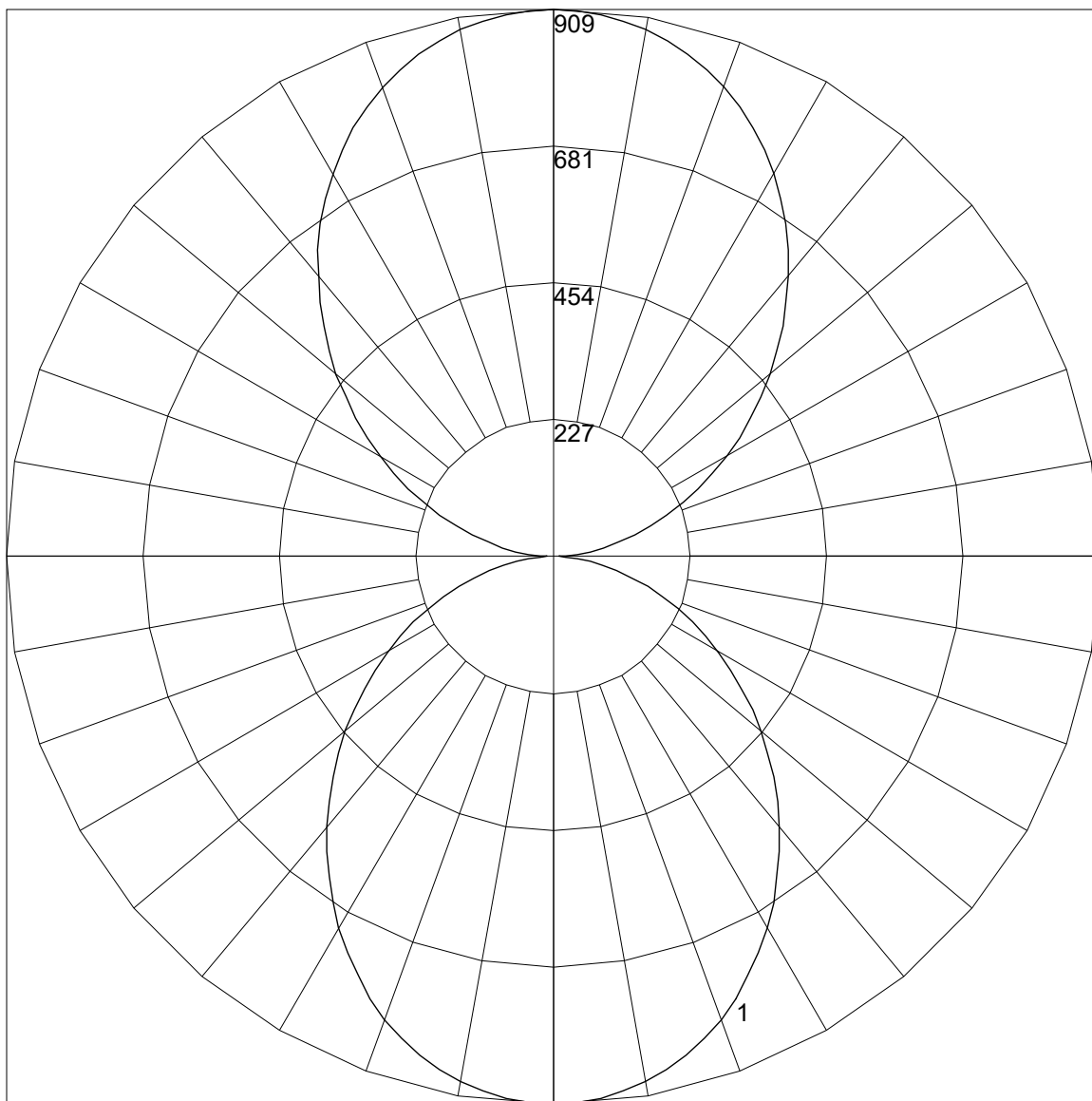
PHOTOMETRIC FILENAME : 3D90 - HP-4C-ID-P-28IN9-16IN-V-V-8TW-ITL93249.916.IES

## 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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	97	93	89	86	90	86	83	80	72	70	68	60	58	57	49	47	46	41
2	89	81	75	70	82	75	70	65	63	60	56	53	50	47	43	41	39	34
3	81	72	64	58	74	66	60	55	56	51	47	47	43	40	38	35	33	29
4	74	63	56	49	68	59	52	46	50	45	40	42	38	35	34	31	29	25
5	68	57	48	42	63	52	45	40	45	39	35	37	33	30	31	28	25	22
6	63	51	43	37	58	47	40	35	40	35	30	34	30	26	28	25	22	19
7	58	46	38	32	53	43	36	31	37	31	27	31	27	23	25	22	20	17
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	31	26	46	35	29	24	31	25	21	26	22	19	22	18	16	14
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	17	15	13

POLAR GRAPH



Maximum Candela = 908.598 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)