

# 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-H-V-835-ITL93249.023.IES

### DESCRIPTION INFORMATION (From Photometric File)

[TEST]ITL93249.023 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-H-V-835

[\_INPUT\_ELECTRICAL]120.0 VOLTS, 38.3 WATTS

[\_INPUT\_ELECTRICAL]277.0 VOLTS, 38.6 WATTS

[\_ABSOLUTE]LUMENS]4064

[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	4065
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	106
Total Luminaire Watts	38.3
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	26.282	25.059	22.003	18.336	15.891	16.503	20.781	23.837	25.671
95.0	41.562	40.340	36.672	33.005	31.783	31.172	35.450	38.506	40.340
97.5	58.676	58.065	53.786	49.508	48.285	48.285	51.341	55.008	56.231
100.0	78.846	77.012	72.734	69.677	66.621	67.233	69.066	72.734	74.567
102.5	98.404	96.570	93.514	89.847	86.791	87.403	89.847	91.681	93.514
105.0	119.185	117.963	114.296	111.851	108.795	108.795	110.017	114.296	114.296
107.5	141.189	140.577	136.910	133.854	131.409	133.243	132.020	135.077	135.688
110.0	163.803	164.414	159.525	158.914	156.469	157.080	154.024	157.080	159.525
112.5	188.863	187.640	184.584	185.195	181.528	180.917	179.083	182.139	182.751
115.0	212.700	211.477	209.644	209.032	206.588	204.754	205.365	206.588	205.976
117.5	237.148	235.925	235.314	233.481	232.869	229.814	229.814	231.036	230.425
120.0	261.596	263.430	261.596	259.762	258.540	257.318	254.873	256.095	253.650
122.5	289.100	290.934	288.489	285.433	285.433	282.988	281.155	281.766	278.710
125.0	315.382	317.827	316.605	311.715	311.104	309.270	308.048	305.603	303.769
127.5	340.442	345.331	342.887	341.053	337.386	333.719	333.107	329.440	328.829
130.0	367.335	372.836	369.168	368.557	366.112	360.611	358.167	356.333	354.500
132.5	396.062	399.729	396.062	394.839	392.394	386.893	383.226	382.004	379.559

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 3D90 - HP-4C-ID-P-28IN9-16IN-H-V-835-ITL93249.023.IES****CANDELA TABULATION - (Cont.)**

135.0	422.343	425.399	423.566	421.121	419.899	414.398	410.119	408.897	407.674
137.5	448.625	451.070	451.070	447.403	445.569	440.068	437.012	434.567	433.345
140.0	476.741	476.741	476.130	474.296	471.851	466.961	462.072	460.849	458.404
142.5	501.189	501.800	501.189	499.355	499.355	492.632	488.354	485.909	483.464
145.0	525.026	525.637	525.637	523.192	524.415	517.080	514.024	510.968	509.746
147.5	550.085	549.474	548.252	545.807	547.641	540.917	537.250	535.416	533.583
150.0	571.478	571.478	570.866	569.033	569.644	563.532	561.087	559.254	556.197
152.5	591.647	592.870	591.036	589.814	591.036	586.146	582.479	580.646	577.590
155.0	611.817	613.040	610.595	609.372	611.206	606.316	602.649	601.427	599.593
157.5	629.542	630.765	628.320	626.486	628.931	624.041	622.819	620.985	618.540
160.0	644.211	645.433	643.600	643.600	644.211	640.544	639.322	638.099	635.654
162.5	657.658	659.491	658.880	657.046	658.880	656.435	655.213	653.990	652.768
165.0	670.493	671.715	671.104	669.882	671.715	668.659	668.048	667.437	666.215
167.5	682.106	681.495	681.495	680.884	682.106	680.884	680.272	679.661	679.050
170.0	690.663	690.663	690.052	691.274	690.663	689.440	689.440	689.440	689.440
172.5	697.997	697.386	697.386	697.997	697.386	697.386	697.386	696.775	696.775
175.0	702.887	702.276	702.276	702.276	702.276	702.276	702.276	702.276	702.887
177.5	705.332	705.332	705.332	705.332	705.332	705.332	705.332	705.332	705.332
180.0	706.554	706.554	706.554	706.554	706.554	706.554	706.554	706.554	706.554

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 3D90 - HP-4C-ID-P-28IN9-16IN-H-V-835-ITL93249.023.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	325.68	N.A.	8.00
0-30	674.84	N.A.	16.60
0-40	1073.53	N.A.	26.40
0-60	1796.72	N.A.	44.20
0-80	2184.96	N.A.	53.80
0-90	2237.29	N.A.	55.00
10-90	2151.72	N.A.	52.90
20-40	747.85	N.A.	18.40
20-50	1137.71	N.A.	28.00
40-70	968.13	N.A.	23.80
60-80	388.24	N.A.	9.60
70-80	143.30	N.A.	3.50
80-90	52.33	N.A.	1.30
90-110	161.80	N.A.	4.00
90-120	367.79	N.A.	9.00
90-130	646.09	N.A.	15.90
90-150	1292.77	N.A.	31.80
90-180	1827.73	N.A.	45.00
110-180	1665.92	N.A.	41.00
0-180	4065.02	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	41.92
100-110	119.88
110-120	205.99
120-130	278.30
130-140	321.82
140-150	324.86
150-160	279.54
160-170	188.76
170-180	66.66

# IES INDOOR REPORT

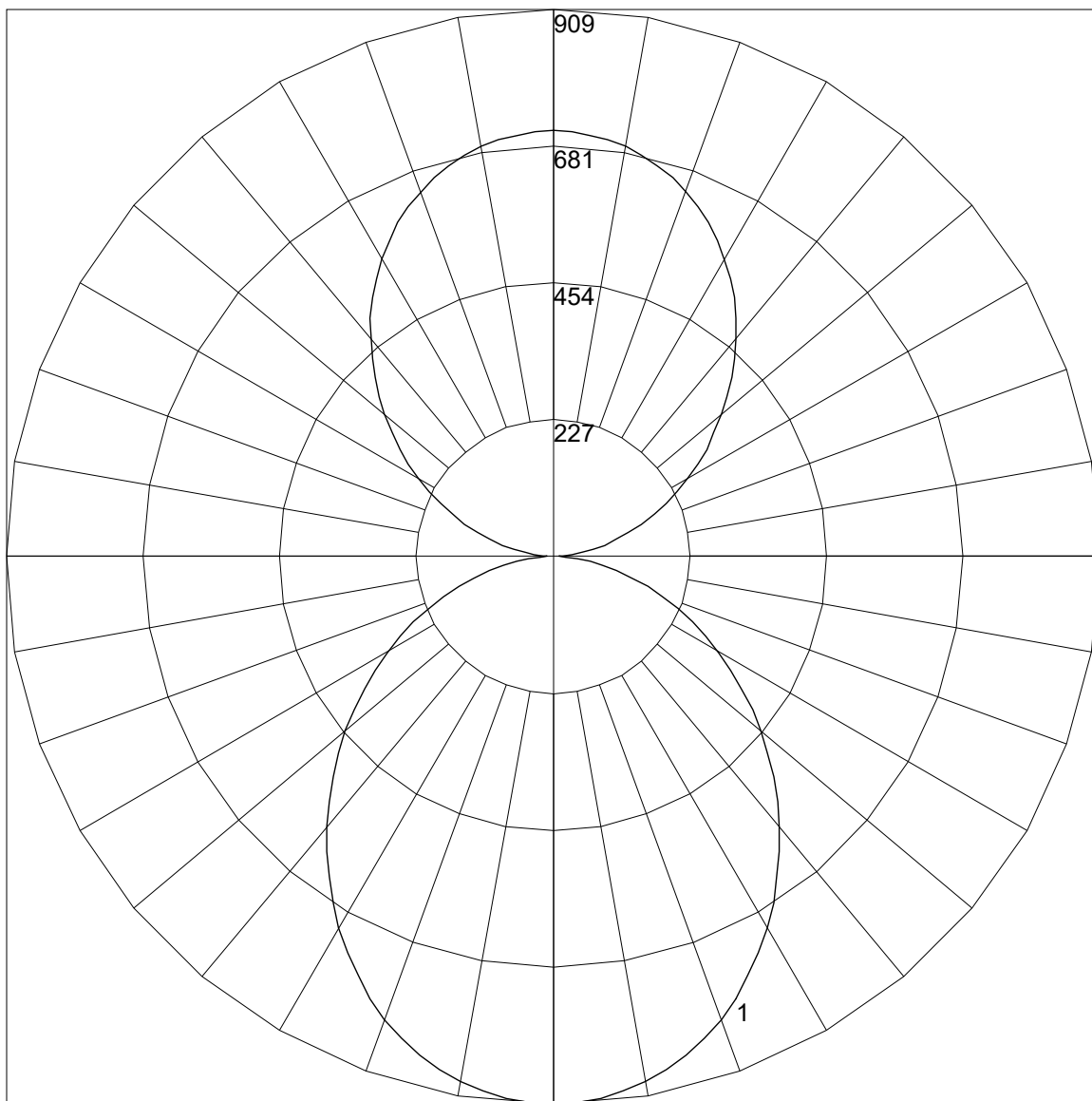
PHOTOMETRIC FILENAME : 3D90 - HP-4C-ID-P-28IN9-16IN-H-V-835-ITL93249.023.IES

## 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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	94	91	87	92	88	84	81	75	73	71	64	62	61	54	52	51	46
2	90	83	76	71	83	77	71	67	66	62	59	56	53	51	47	45	43	39
3	82	73	65	59	76	68	61	56	58	53	49	50	46	43	42	39	37	33
4	75	64	56	50	70	60	53	48	52	47	42	45	40	37	38	34	32	28
5	69	57	49	43	64	54	46	41	47	41	37	40	36	32	34	31	28	25
6	64	52	43	38	59	48	41	36	42	36	32	36	32	28	31	27	25	22
7	59	47	39	33	55	44	37	31	38	32	28	33	28	25	28	25	22	19
8	55	42	35	29	51	40	33	28	35	29	25	30	26	22	26	22	20	17
9	51	39	31	26	47	36	30	25	32	26	23	28	23	20	24	20	18	16
10	48	36	28	24	44	34	27	23	30	24	20	26	21	18	22	19	16	14

POLAR GRAPH



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