



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HBPA48-LED280DMV50.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] LLI-17027-1-R01
 [TESTLAB] LightLab international (www.LightLabInt.com)
 [MANUFAC] Mobern Lighting Co
 [LUMCAT] HBPA48-LED280DMV50
 [LUMINAIRE] Mobern Lighting Co - 4' suspended high bay luminaire. Product ID: HBPA48-LED280DMV50
 [MORE] White painted formed steel housing with no lens.
 [MORE] 704 LEDs with 2 x 44 array on each of Eight white PCBs mounted in two rows on ~ 7.5" centers.
 [MORE] Two Philips Advance Xitanium LED driver. Model: XI190C275V054BSG1 set to 2060ma.
 [MORE] Operating at 120Vac and 60Hz.
 [OTHER] Absolute test - lamp lumens value set to -1
 [MORE] NA conventions used for C0 plane alignment and C-plane rotation direction.
 [MORE] The sample was tested at a distance of 8m.
 [MORE] This IES file extrapolated from LLI-17027-1-R01
 [DATE] This file created: Tuesday, January 16, 2018
 [ISSUEDATE] Tuesday, January 16, 2018

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	41120
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	147
Total Luminaire Watts	280
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.28
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.40
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.13 m
Luminous Width (90-270)	0.36 m
Luminous Height	0.00 m

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LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	34778	35072	35835
55	33605	34267	35365
65	31179	32079	17378
75	25873	15803	17073
85	16169	8469	8883

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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>
0.0	14516.98614516.98614516.98614516.98614516.98614516.986				
0.5	14549.05114514.28414531.74514494.58414504.468				
1.0	14547.99114512.01014529.71014495.40514502.365				
1.5	14545.23814510.33414526.06714492.03614499.030				
2.0	14542.17714506.74314524.04914489.33414496.328				
2.5	14537.90114501.21914518.81614484.52814491.830				
3.0	14532.17214496.39614512.18114478.61114485.777				
3.5	14525.45114487.82914504.52014471.48014478.970				
4.0	14517.58514480.21914496.43114462.89514471.993				
4.5	14508.89714471.18914487.50414453.48914461.339				
5.0	14498.53414461.93714476.86714444.59714452.754				
5.5	14487.89714451.06114465.42614433.25914443.280				
6.0	14475.48214439.50114453.16414420.38114431.309				
6.5	14461.97214426.77714439.97914407.72614417.833				
7.0	14447.50414411.40314425.46014393.12214402.476				
7.5	14432.30114397.84214409.81314378.43214385.512				
8.0	14415.83214381.49314393.65214360.42414368.188				
8.5	14398.08114365.00714375.45614345.27314351.326				
9.0	14379.85114347.03414356.69614326.25614334.294				
9.5	14360.51014329.14614336.94414306.86314314.661				
10.0	14340.29614308.64214316.16614287.00914293.114				
10.5	14318.78314286.47814294.29414265.94014272.011				
11.0	14296.87614264.43514271.25814243.43514248.975				
11.5	14272.04514240.23714246.46214219.23614223.443				
12.0	14244.75114215.62814222.67414194.40514200.271				
12.5	14214.75614189.58314196.95314168.68514174.157				
13.0	14180.67314160.78414169.02714141.40814145.564				
13.5	14143.78614128.18914141.76814113.44814116.919				
14.0	14106.72714093.06314112.37114084.49514088.822				
14.5	14068.79714056.10714082.92214053.79914058.758				
15.0	14028.88214017.01414054.87614022.99914027.326				
15.5	13985.27413978.81014030.25013990.26813995.637				
16.0	13936.12513938.12613996.81713956.64613960.204				
16.5	13887.25013894.51813957.91213922.52913925.300				
17.0	13839.89613847.86513916.93713888.46413889.353				
17.5	13794.42413797.55313876.44213852.36313852.226				
18.0	13749.94413749.58413838.99013816.21113815.698				
18.5	13701.68413702.88113796.97213778.86213776.468				
19.0	13651.35513659.52913745.25813736.65613736.177				
19.5	13603.02713612.03913693.69713694.87713694.912				
20.0	13557.84513559.14513642.41113655.33913652.466				
20.5	13512.71513504.86513591.74013612.05613607.114				
21.0	13468.67913452.72413539.85513567.64413563.557				
21.5	13425.03713403.76313486.15713521.33413518.495				
22.0	13379.17113355.40013428.37113475.50213473.228				
22.5	13333.92113307.92713370.17613428.01213427.602				
23.0	13287.20113260.28313312.27113379.87213377.923				
23.5	13239.11213210.89513254.12713330.79213326.704				
24.0	13190.44213161.14713197.04313280.92413275.469				
24.5	13140.72813111.99813141.46413230.32213226.799				
25.0	13089.57813059.27513083.04613177.05113172.827				
25.5	13037.07713007.86913023.17413123.16513121.472				
26.0	12982.02912954.39312962.29413066.76513065.260				
26.5	12923.42312900.60912900.98613013.23813008.467				

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27.0	12860.30212845.06512840.22512956.87312953.487
27.5	12794.85512789.48512779.72112900.28412894.795
28.0	12727.80112729.66512719.38712841.73012836.753
28.5	12661.02112665.53512659.43012782.44012777.309
29.0	12589.64012600.60212598.60112720.87512716.702
29.5	12512.41112529.70012537.00212656.57412653.667
30.0	12435.48912460.14912475.86512591.36712591.196
30.5	12360.60312389.17912412.65912524.80912525.972
31.0	12287.80312312.89012347.82812458.69612461.039
31.5	12213.08712235.66112282.21112391.35112394.942
32.0	12136.37112154.19112217.77312321.37312328.470
32.5	12062.04912074.08812149.83012248.91512260.390
33.0	11990.77111998.21012082.17712175.70412192.600
33.5	11920.55311920.45112013.08812102.47612122.536
34.0	11851.32711839.35711941.28012028.78712052.472
34.5	11781.07511761.35811871.35311953.91811981.707
35.0	11710.03711685.95811797.52711878.87811909.865
35.5	11638.81011609.61811721.10111800.12611836.928
36.0	11567.19011536.93811641.15311720.91311761.700
36.5	11494.32111462.80411559.35811645.48011687.104
37.0	11418.42611387.42111475.95511562.88011608.712
37.5	11342.20611312.26111392.60311481.11911531.260
38.0	11259.36711234.48511307.26811398.28111453.484
38.5	11169.87611155.92211219.72711312.60311376.374
39.0	11080.19711078.00811127.63611228.20911296.135
39.5	10989.86810998.19711034.79411143.13011215.007
40.0	10892.99010913.34010941.52311054.95611130.817
40.5	10791.34010824.58510852.80210970.16811047.568
41.0	10693.07610731.67410762.52410882.47310965.499
41.5	10597.37710636.72710668.45010793.39210879.753
42.0	10498.01910540.78910576.29210702.89210795.136
42.5	10401.85910439.05410483.94510615.04310706.107
43.0	10310.67510333.69310394.31710521.56810617.831
43.5	10221.30410232.53910305.83510430.43510528.836
44.0	10134.22410132.78810217.40510337.02810439.841
44.5	10043.39910032.23210127.36610244.63010346.878
45.0	9953.772 9933.660 10038.11510152.31710256.378
45.5	9862.844 9838.988 9946.469 10059.35510163.980
46.0	9770.343 9744.589 9855.217 9964.066 10068.846
46.5	9677.928 9652.447 9763.623 9870.437 9972.737
47.0	9574.688 9561.486 9670.951 9775.234 9877.927
47.5	9465.924 9464.812 9575.628 9679.844 9778.313
48.0	9359.298 9371.149 9479.468 9582.452 9680.938
48.5	9243.505 9275.997 9378.536 9485.607 9583.068
49.0	9125.318 9175.220 9272.663 9386.095 9482.427
49.5	9015.186 9069.517 9167.370 9287.951 9382.778
50.0	8902.335 8959.778 9060.590 9188.114 9281.846
50.5	8794.511 8845.764 8946.661 9086.293 9177.939
51.0	8693.067 8727.560 8832.134 8985.464 9075.793
51.5	8592.785 8611.990 8718.582 8882.959 8970.295
52.0	8489.442 8495.256 8605.115 8779.257 8865.020
52.5	8387.997 8380.644 8493.273 8674.238 8757.966
53.0	8283.748 8272.889 8382.781 8569.989 8650.707
53.5	8174.950 8167.323 8273.556 8461.789 8541.310
54.0	8055.497 8062.714 8168.725 8354.171 8432.614
54.5	7933.121 7957.678 8062.885 8244.449 8322.482

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CANDELA TABULATION - (Cont.)

55.0	7801.766	7851.240	7955.558	8131.170	8210.435
55.5	7677.012	7744.425	7848.487	8017.276	8096.985
56.0	7551.215	7627.470	7741.091	7901.244	7950.718
56.5	7435.491	7503.862	7630.702	7782.527	7790.017
57.0	7325.923	7375.996	7518.672	7665.110	7670.257
57.5	7216.475	7246.710	7398.877	7545.401	7556.979
58.0	7105.728	7118.023	7275.526	7404.247	7441.015
58.5	6991.371	6998.058	7150.909	7230.225	7324.846
59.0	6863.659	6885.190	7023.642	7093.056	7208.848
59.5	6729.038	6772.441	6896.408	6967.909	7084.984
60.0	6592.639	6660.821	6773.484	6846.062	6667.080
60.5	6461.831	6547.611	6655.246	6722.591	5693.882
61.0	6340.429	6417.829	6538.581	6599.992	5086.753
61.5	6227.236	6286.765	6425.012	6474.828	4955.706
62.0	6112.076	6149.716	6309.903	6050.204	4865.069
62.5	5992.641	6014.513	6191.546	5106.419	4774.330
63.0	5859.251	5894.223	6070.879	4630.714	4681.299
63.5	5716.558	5778.875	5939.678	4521.094	4469.363
64.0	5575.045	5662.347	5805.467	4429.603	3647.955
64.5	5450.394	5541.800	5661.817	4337.341	3064.734
65.0	5333.490	5406.102	5487.452	4240.531	2972.661
65.5	5213.866	5261.750	5342.365	3844.227	2909.797
66.0	5081.417	5127.488	5216.911	3006.812	2846.761
66.5	4936.108	5007.659	5094.979	2761.170	2785.094
67.0	4794.509	4889.353	4970.242	2693.209	2723.119
67.5	4675.741	4767.318	4838.545	2628.874	2665.334
68.0	4556.545	4628.336	4479.846	2564.881	2608.558
68.5	4422.164	4482.822	3657.857	2501.846	2552.688
69.0	4273.930	4358.000	3371.907	2442.470	2497.502
69.5	4141.104	4241.010	3273.882	2385.455	2443.189
70.0	4022.285	4110.493	3182.117	2330.850	2386.926
70.5	3893.547	3966.022	3083.357	2278.110	2331.517
71.0	3744.560	3832.940	2642.230	2226.157	2278.281
71.5	3616.814	3714.873	2075.118	2173.912	2221.984
72.0	3498.661	3584.783	1992.211	2120.625	2167.260
72.5	3355.507	3441.902	1933.999	2067.936	2103.216
73.0	3221.330	3319.868	1875.341	2013.451	2041.737
73.5	3104.785	3196.533	1814.119	1953.733	1983.849
74.0	2960.912	3053.105	1756.436	1889.621	1943.934
74.5	2839.374	2932.302	1707.236	1828.501	1861.951
75.0	2710.481	2804.641	1655.556	1780.104	1788.621
75.5	2580.922	2671.867	1599.703	1728.544	1721.105
76.0	2459.897	2547.335	1551.443	1643.944	1649.126
76.5	2329.876	2399.290	1499.336	1574.103	1576.822
77.0	2210.765	2282.163	1444.048	1500.482	1506.262
77.5	2088.645	2146.088	1390.179	1427.733	1436.540
78.0	1959.839	1933.999	1324.048	1359.123	1370.581
78.5	1851.485	1508.417	1274.831	1290.016	1304.655
79.0	1732.341	1406.869	1206.956	1221.269	1229.273
79.5	1619.780	1308.811	1138.602	1156.729	1155.156
80.0	1500.755	953.122	1066.760	1082.783	1092.788
80.5	1395.890	891.181	995.122	1000.390	961.228
81.0	1286.408	849.471	929.265	942.468	566.000
81.5	1184.433	813.798	865.272	648.856	379.939
82.0	1082.629	780.912	801.348	380.281	370.345
82.5	989.513	743.888	728.137	368.395	362.735

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CANDELA TABULATION - (Cont.)

83.0	896.824	697.270	669.839	358.220	353.637
83.5	806.068	639.656	492.636	347.190	342.983
84.0	722.340	577.492	326.583	334.313	343.838
84.5	644.974	508.455	312.714	335.698	406.223
85.0	570.395	446.685	298.776	362.974	313.381
85.5	498.981	391.995	281.401	297.374	300.623
86.0	416.655	335.475	297.494	281.350	279.948
86.5	336.963	270.456	246.087	258.657	257.459
87.0	264.608	211.012	225.001	233.466	231.893
87.5	207.661	190.303	200.119	204.428	207.353
88.0	170.636	167.456	170.756	181.000	180.384
88.5	141.667	130.038	141.855	146.335	146.797
89.0	94.519	98.691	105.412	106.780	108.696
89.5	59.803	58.025	63.993	65.378	66.387
90.0	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	5335.68	N.A.	13.00
0-30	11381.53	N.A.	27.70
0-40	18760.65	N.A.	45.60
0-60	33640.74	N.A.	81.80
0-80	40644.27	N.A.	98.80
0-90	41119.97	N.A.	100.00
10-90	39744.23	N.A.	96.70
20-40	13424.97	N.A.	32.60
20-50	21187.27	N.A.	51.50
40-70	19648.99	N.A.	47.80
60-80	7003.54	N.A.	17.00
70-80	2234.64	N.A.	5.40
80-90	475.69	N.A.	1.20
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	41119.97	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	1375.72
10-20	3959.96
20-30	6045.85
30-40	7379.12
40-50	7762.3
50-60	7117.78
60-70	4768.9
70-80	2234.64
80-90	475.69
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

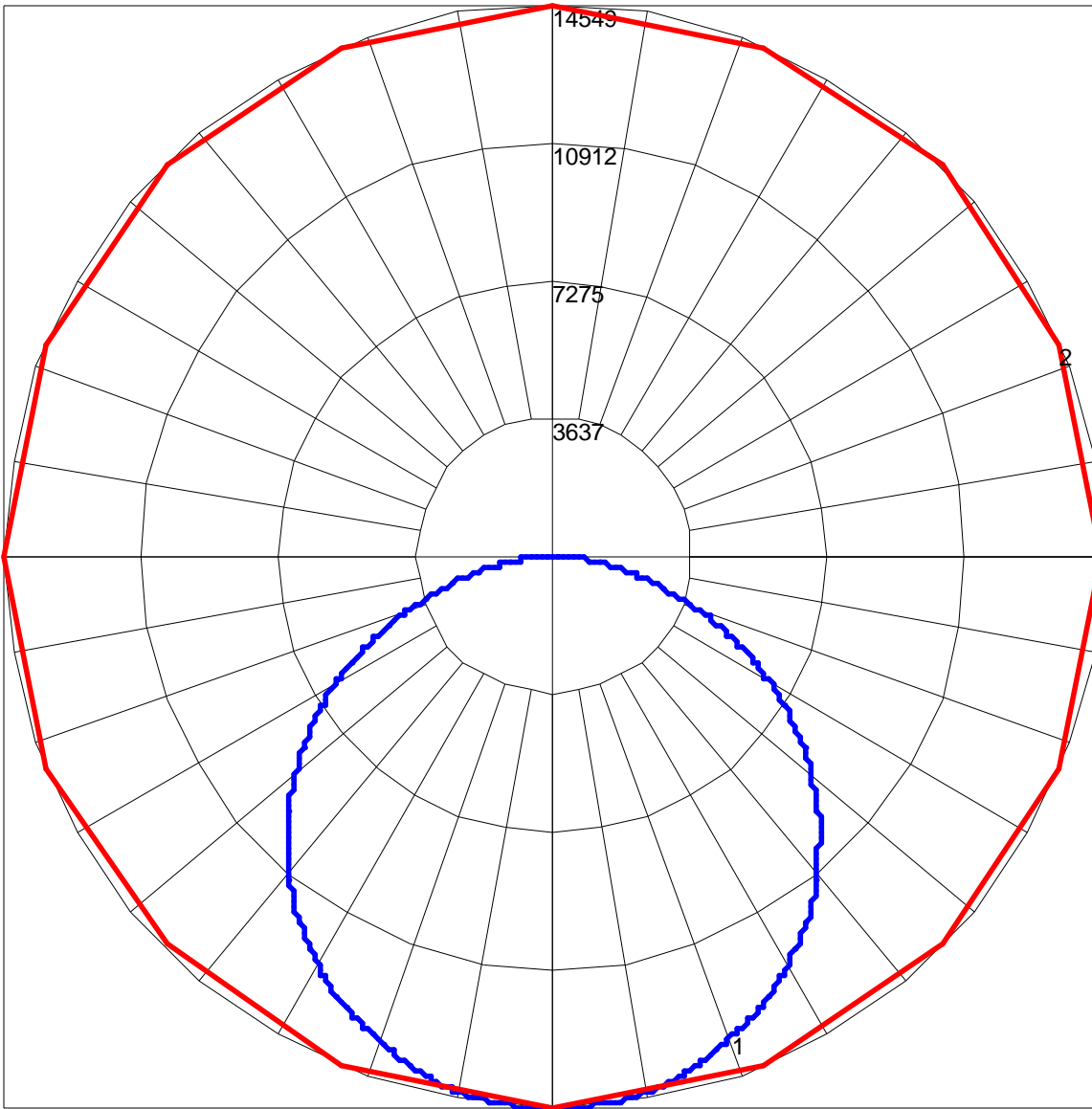
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	102	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	80	72	66	88	79	71	65	76	70	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	40	33	29	27
10	53	40	32	27	52	39	32	27	38	31	27	38	31	27	37	31	26	25

POLAR GRAPH



Maximum Candela = 14549.051 Located At Horizontal Angle = 0, Vertical Angle = .5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (.5) (Through Max. Cd.)