



**IES INDOOR REPORT**

**PHOTOMETRIC FILENAME : HBPA48-LED315DMV50.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-LED315DMV50  
 [LUMINAIRE] Mobern Lighting Co - 4' suspended high bay luminaire. Product ID: HBPA48-LED315DMV50  
 [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 2300ma.  
 [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  
 [ISSUE DATE] Tuesday, January 16, 2018

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	45440
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	144
Total Luminaire Watts	315
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	38431	38757	39600
55	37135	37867	39080
65	34454	35449	19203
75	28591	17463	18867
85	17867	9359	9817

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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	16042.116	16042.116	16042.116	16042.116	16042.116
0.5	16077.550	16039.130	16058.425	16017.360	16028.283
1.0	16076.378	16036.617	16056.176	16018.267	16025.959
1.5	16073.336	16034.765	16052.151	16014.544	16022.274
2.0	16069.953	16030.796	16049.921	16011.558	16019.288
2.5	16065.228	16024.692	16044.138	16006.248	16014.318
3.0	16058.898	16019.363	16036.806	15999.709	16007.628
3.5	16051.471	16009.895	16028.340	15991.829	16000.106
4.0	16042.778	16001.486	16019.401	15982.342	15992.396
4.5	16033.178	15991.508	16009.536	15971.948	15980.623
5.0	16021.726	15981.284	15997.782	15962.122	15971.136
5.5	16009.971	15969.265	15985.139	15949.592	15960.666
6.0	15996.251	15956.490	15971.589	15935.362	15947.438
6.5	15981.322	15942.430	15957.019	15921.378	15932.546
7.0	15965.334	15925.441	15940.975	15905.239	15915.576
7.5	15948.534	15910.455	15923.683	15889.006	15896.829
8.0	15930.335	15892.388	15905.825	15869.106	15877.686
8.5	15910.719	15874.171	15885.717	15852.363	15859.052
9.0	15890.574	15854.309	15864.986	15831.348	15840.230
9.5	15869.201	15834.542	15843.159	15809.918	15818.535
10.0	15846.863	15811.883	15820.198	15787.978	15794.724
10.5	15823.090	15787.392	15796.028	15764.695	15771.404
11.0	15798.882	15763.032	15770.573	15739.826	15745.949
11.5	15771.442	15736.292	15743.171	15713.085	15717.734
12.0	15741.281	15709.098	15716.884	15685.645	15692.127
12.5	15708.134	15680.316	15688.461	15657.223	15663.270
13.0	15670.470	15648.492	15657.601	15627.081	15631.673
13.5	15629.708	15612.473	15627.478	15596.183	15600.019
14.0	15588.756	15573.657	15594.992	15564.189	15568.970
14.5	15546.840	15532.818	15562.450	15530.267	15535.747
15.0	15502.733	15489.618	15531.458	15496.232	15501.013
15.5	15454.543	15447.400	15504.245	15460.061	15465.995
16.0	15400.231	15402.442	15467.299	15422.908	15426.839
16.5	15346.220	15354.252	15424.307	15385.207	15388.268
17.0	15293.892	15302.699	15379.027	15347.562	15348.545
17.5	15243.643	15247.101	15334.277	15307.669	15307.518
18.0	15194.489	15194.092	15292.891	15267.719	15267.152
18.5	15141.159	15142.482	15246.458	15226.446	15223.800
19.0	15085.543	15094.576	15189.311	15179.806	15179.276
19.5	15032.138	15042.097	15132.334	15133.638	15133.676
20.0	14982.209	14983.646	15075.659	15089.946	15086.771
20.5	14932.338	14923.664	15019.665	15042.116	15036.654
21.0	14883.676	14866.044	14962.329	14993.038	14988.521
21.5	14835.448	14811.939	14902.989	14941.862	14938.725
22.0	14784.764	14758.496	14839.133	14891.216	14888.703
22.5	14734.760	14706.036	14774.824	14838.736	14838.283
23.0	14683.131	14653.386	14710.836	14785.539	14783.385
23.5	14629.990	14598.809	14646.583	14731.302	14726.785
24.0	14576.207	14543.835	14583.502	14676.196	14670.167
24.5	14521.271	14489.522	14522.083	14620.277	14616.384
25.0	14464.747	14431.260	14457.528	14561.410	14556.742
25.5	14406.731	14374.453	14391.367	14501.863	14499.992
26.0	14345.898	14315.359	14324.090	14439.537	14437.874
26.5	14281.135	14255.926	14256.341	14380.387	14375.115

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**CANDELA TABULATION - (Cont.)**

27.0	14211.38314194.54514189.19714318.10014314.358
27.5	14139.06114133.12714122.33614255.56714249.500
28.0	14064.96214067.02214055.66514190.86014185.361
28.5	13991.16613996.15513989.40914125.34114119.672
29.0	13912.28613924.40013922.18914057.30914052.698
29.5	13826.94313846.04913854.11913986.25313983.040
30.0	13741.94113769.19213786.55913914.19513914.006
30.5	13659.18713690.76513716.71213840.64413841.930
31.0	13578.73913606.46213645.07013767.58513770.174
31.5	13496.17413521.11913572.55913693.16513697.134
32.0	13411.39813431.08913501.35213615.83513623.678
32.5	13329.26813342.57213426.27013535.76513548.445
33.0	13250.50113258.72213351.51013454.86313473.534
33.5	13172.90613172.79313275.16313373.94213396.109
34.0	13096.40813083.17913195.81113292.51113318.685
34.5	13018.77512996.98613118.53713209.77613240.485
35.0	12940.27312913.66513036.95513126.85213161.095
35.5	12861.56412829.30512952.50013039.82713080.496
36.0	12782.41912748.98912864.15312952.29212997.364
36.5	12701.89512667.06712773.76412868.93412914.931
37.0	12618.02712583.76512681.59912777.65712828.303
37.5	12533.79912500.70812589.49112687.30612742.715
38.0	12442.25712414.76112495.19012595.76512656.767
38.5	12343.36512327.94412398.45212501.08612571.557
39.0	12244.26412241.84512296.68712407.82512482.888
39.5	12144.44512153.64912194.09012313.80812393.236
40.0	12037.38912059.87712091.02112216.37112300.202
40.5	11925.06011961.79711992.97912122.67512208.207
41.0	11816.47311859.12511893.21712025.76712117.516
41.5	11710.72011754.20411789.26011927.32812022.762
42.0	11600.92311648.18711687.41911827.32011929.255
42.5	11494.66011535.76311585.37011730.24111830.873
43.0	11393.89711419.33311486.32611626.94611733.322
43.5	11295.13611307.55211388.54911526.23911634.977
44.0	11198.90811197.32111290.82811423.01911536.633
44.5	11098.54211086.20111191.33011320.91311433.904
45.0	10999.49810977.27411092.70211218.90211333.896
45.5	10899.01810872.65510991.42811116.17311231.791
46.0	10796.79910768.33910890.58911010.87411126.662
46.5	10694.67510666.51710789.37210907.40811020.456
47.0	10580.58810565.99910686.96510802.20410915.686
47.5	10460.39810459.16910581.62810696.79110805.606
48.0	10342.56910355.66610475.36510589.16810698.001
48.5	10214.61210250.51810363.83010482.14910589.848
49.0	10084.00910139.15310246.83310372.18210478.634
49.5	9962.306 10022.34510130.47810263.72710368.516
50.0	9837.599 9901.077 10012.48010153.40210256.981
50.5	9718.448 9775.085 9886.582 10040.88410142.157
51.0	9606.345 9644.462 9760.023 9929.462 10029.280
51.5	9495.528 9516.751 9634.541 9816.188 9912.699
52.0	9381.328 9387.754 9509.154 9701.591 9796.364
52.5	9269.226 9261.100 9385.561 9585.539 9678.063
53.0	9154.024 9142.024 9263.462 9470.337 9559.535
53.5	9033.796 9025.368 9142.761 9350.770 9438.646
54.0	8901.794 8909.769 9026.917 9231.846 9318.531
54.5	8766.561 8793.698 8909.958 9110.597 9196.828

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**CANDELA TABULATION - (Cont.)**

55.0	8621.406	8676.078	8791.355	8985.417	9073.009
55.5	8483.546	8558.042	8673.035	8859.558	8947.641
56.0	8344.533	8428.799	8554.357	8731.335	8786.007
56.5	8216.651	8292.205	8432.371	8600.146	8608.423
57.0	8095.573	8150.906	8308.571	8470.393	8476.082
57.5	7974.626	8008.038	8176.191	8338.108	8350.902
58.0	7852.243	7865.831	8039.880	8182.125	8222.755
58.5	7725.873	7733.262	7902.172	7989.820	8094.382
59.0	7584.744	7608.536	7761.533	7838.240	7966.198
59.5	7435.979	7483.942	7620.933	7699.945	7829.320
60.0	7285.250	7360.596	7485.095	7565.298	7367.512
60.5	7140.700	7235.492	7354.435	7428.855	6292.071
61.0	7006.544	7092.076	7225.514	7293.376	5621.158
61.5	6881.459	6947.242	7100.013	7155.062	5476.344
62.0	6754.200	6795.795	6972.811	6685.828	5376.185
62.5	6622.217	6646.388	6842.019	5642.891	5275.913
63.0	6474.814	6513.460	6708.675	5117.208	5173.108
63.5	6317.130	6385.994	6563.691	4996.073	4938.907
64.0	6160.750	6257.224	6415.380	4894.969	4031.203
64.5	6023.003	6124.012	6256.638	4793.015	3386.710
65.0	5893.817	5974.058	6063.955	4686.034	3284.963
65.5	5761.626	5814.541	5903.625	4248.094	3215.495
66.0	5615.262	5666.173	5764.990	3322.703	3145.837
66.5	5454.687	5533.756	5630.248	3051.253	3077.691
67.0	5298.212	5403.020	5492.407	2976.153	3009.205
67.5	5166.967	5268.165	5346.874	2905.059	2945.350
68.0	5035.248	5114.582	4950.491	2834.343	2882.609
68.5	4886.749	4953.779	4042.145	2764.686	2820.869
69.0	4722.942	4815.844	3726.154	2699.072	2759.886
69.5	4576.162	4686.563	3617.831	2636.067	2699.866
70.0	4444.859	4542.335	3516.425	2575.726	2637.692
70.5	4302.596	4382.685	3407.290	2517.445	2576.463
71.0	4137.958	4235.622	2919.818	2460.033	2517.634
71.5	3996.790	4105.151	2293.127	2402.300	2455.422
72.0	3866.225	3961.395	2201.510	2343.414	2394.948
72.5	3708.031	3803.503	2137.181	2285.190	2324.176
73.0	3559.758	3668.647	2072.361	2224.981	2256.238
73.5	3430.969	3532.356	2004.707	2158.989	2192.269
74.0	3271.981	3373.859	1940.964	2088.141	2148.161
74.5	3137.673	3240.364	1886.595	2020.600	2057.564
75.0	2995.240	3099.292	1829.486	1967.119	1976.530
75.5	2852.070	2952.569	1767.765	1910.142	1901.921
76.0	2718.329	2814.954	1714.435	1816.654	1822.380
76.5	2574.649	2651.355	1656.854	1739.475	1742.480
77.0	2443.025	2521.923	1595.757	1658.120	1664.507
77.5	2308.075	2371.553	1536.228	1577.728	1587.461
78.0	2165.736	2137.181	1463.150	1501.910	1514.571
78.5	2045.999	1666.888	1408.762	1425.543	1441.720
79.0	1914.337	1554.673	1333.756	1349.574	1358.418
79.5	1789.951	1446.312	1258.222	1278.253	1276.515
80.0	1658.422	1053.255	1178.831	1196.539	1207.594
80.5	1542.540	984.807	1099.668	1105.489	1062.213
81.0	1421.556	938.715	1026.892	1041.482	625.463
81.5	1308.868	899.294	956.177	717.024	419.854
82.0	1196.369	862.953	885.536	420.232	409.253
82.5	1093.470	822.039	804.634	407.098	400.843

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**CANDELA TABULATION - (Cont.)**

<b>83.0</b>	991.043	770.524	740.211	395.854	390.789
<b>83.5</b>	890.752	706.857	544.392	383.665	379.016
<b>84.0</b>	798.228	638.163	360.893	369.435	379.961
<b>84.5</b>	712.734	561.872	345.567	370.966	448.900
<b>85.0</b>	630.320	493.613	330.165	401.108	346.304
<b>85.5</b>	551.403	433.177	310.965	328.615	332.206
<b>86.0</b>	460.428	370.720	328.748	310.908	309.358
<b>86.5</b>	372.364	298.870	271.941	285.831	284.508
<b>87.0</b>	292.407	233.181	248.640	257.994	256.255
<b>87.5</b>	229.477	210.296	221.143	225.905	229.137
<b>88.0</b>	188.563	185.048	188.695	200.015	199.335
<b>88.5</b>	156.550	143.700	156.758	161.709	162.219
<b>89.0</b>	104.449	109.060	116.487	117.998	120.115
<b>89.5</b>	66.086	64.121	70.716	72.247	73.362
<b>90.0</b>	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	5896.24	N.A.	13.00
0-30	12577.26	N.A.	27.70
0-40	20731.62	N.A.	45.60
0-60	37174.98	N.A.	81.80
0-80	44914.29	N.A.	98.80
0-90	45439.96	N.A.	100.00
10-90	43919.7	N.A.	96.70
20-40	14835.37	N.A.	32.60
20-50	23413.16	N.A.	51.50
40-70	21713.27	N.A.	47.80
60-80	7739.32	N.A.	17.00
70-80	2469.41	N.A.	5.40
80-90	525.66	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	45439.96	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	1520.25
10-20	4375.99
20-30	6681.01
30-40	8154.36
40-50	8577.79
50-60	7865.57
60-70	5269.91
70-80	2469.41
80-90	525.66
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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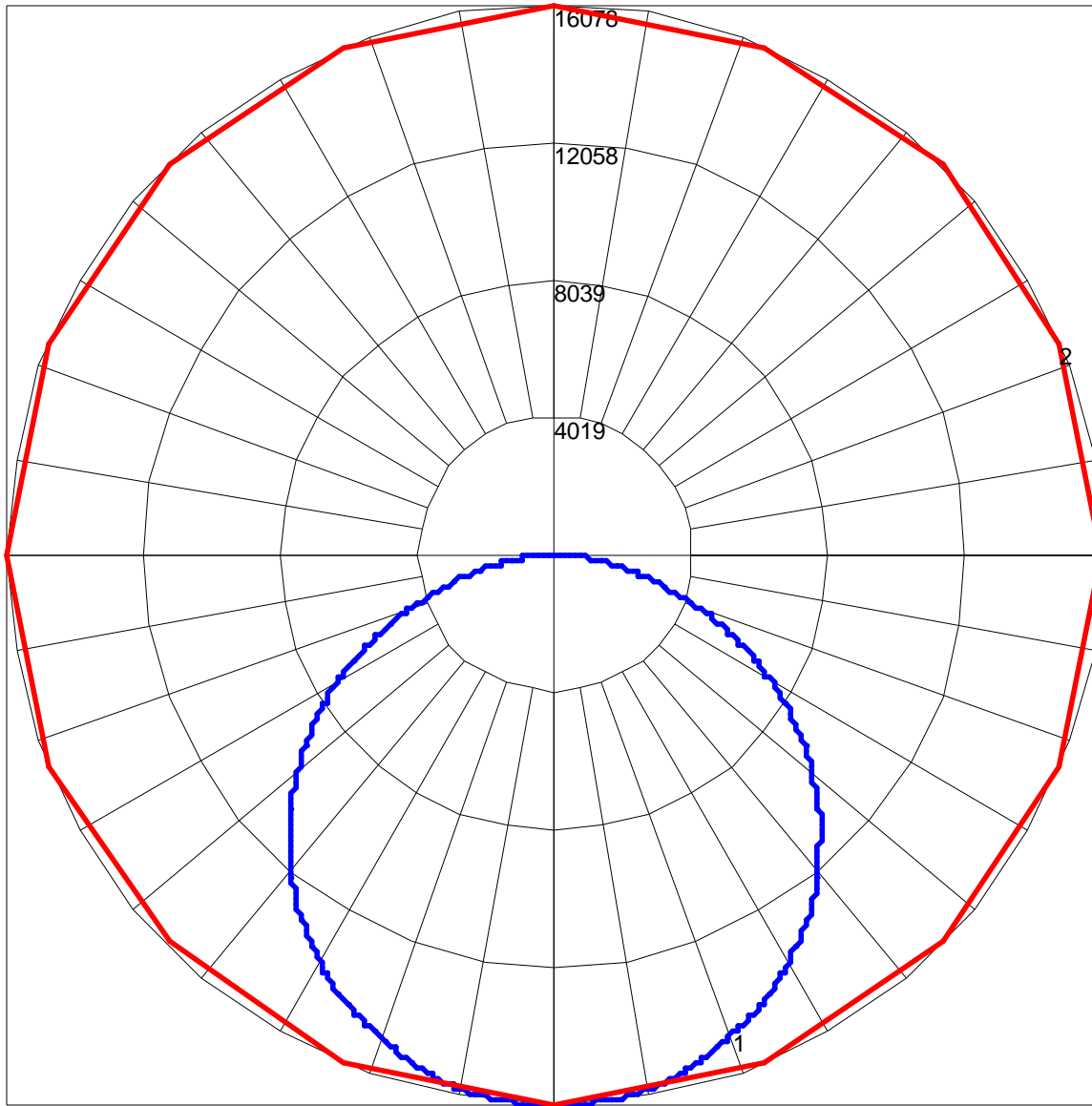
**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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 = 16077.55 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.)