



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HBPA48-LED175DMV40.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-LED175DMV40  
 [LUMINAIRE] Mobern Lighting Co - 4' suspended high bay luminaire. Product ID: HBPA48-LED175DMV40  
 [MORE] White painted formed steel housing with no lens.  
 [MORE] 352 LEDs with 2 x 44 array on each of four white PCBs mounted in two rows on ~ 7.5" centers.  
 [MORE] One Philips Advance Xitanium LED driver. Model: XI190C275V054BSG1 set to 2560ma.  
 [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 created by LightLab/LSA Report program version 3.808a.  
 [DATE] This file extrapolated from LLI-17027-1-R01 Wednesday, June 28, 2017  
 [ISSUEDATE] Wednesday, April 12, 2017 9:02:43 AM

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	25294
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	142
Total Luminaire Watts	177.6
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	21393	21574	22043
55	20671	21079	21754
65	19179	19733	10690
75	15915	9721	10502
85	9946	5210	5464

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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	8929.954	8929.954	8929.954	8929.954	8929.954
0.5	8949.679	8928.292	8939.033	8916.174	8922.254
1.0	8949.027	8926.893	8937.781	8916.679	8920.960
1.5	8947.333	8925.862	8935.540	8914.606	8918.909
2.0	8945.450	8923.653	8934.299	8912.944	8917.247
2.5	8942.820	8920.255	8931.080	8909.988	8914.480
3.0	8939.296	8917.289	8926.998	8906.348	8910.756
3.5	8935.162	8912.018	8922.286	8901.962	8906.569
4.0	8930.323	8907.337	8917.310	8896.681	8902.277
4.5	8924.979	8901.783	8911.819	8890.895	8895.724
5.0	8918.604	8896.092	8905.275	8885.425	8890.443
5.5	8912.061	8889.401	8898.238	8878.450	8884.615
6.0	8904.423	8882.290	8890.695	8870.529	8877.251
6.5	8896.113	8874.463	8882.585	8862.744	8868.962
7.0	8887.213	8865.006	8873.653	8853.761	8859.515
7.5	8877.861	8856.664	8864.028	8844.724	8849.079
8.0	8867.731	8846.607	8854.087	8833.647	8838.423
8.5	8856.811	8836.466	8842.894	8824.327	8828.051
9.0	8845.597	8825.410	8831.354	8812.629	8817.573
9.5	8833.700	8814.407	8819.204	8800.700	8805.497
10.0	8821.266	8801.794	8806.422	8788.486	8792.242
10.5	8808.032	8788.160	8792.968	8775.526	8779.261
11.0	8794.556	8774.600	8778.798	8761.682	8765.091
11.5	8779.282	8759.715	8763.544	8746.797	8749.385
12.0	8762.492	8744.577	8748.911	8731.522	8735.131
12.5	8744.041	8728.556	8733.090	8715.701	8719.067
13.0	8723.075	8710.841	8715.911	8698.922	8701.478
13.5	8700.384	8690.790	8699.143	8681.723	8683.858
14.0	8677.588	8669.183	8681.060	8663.913	8666.574
14.5	8654.256	8646.450	8662.945	8645.030	8648.081
15.0	8629.703	8622.402	8645.693	8626.084	8628.746
15.5	8602.878	8598.901	8630.544	8605.950	8609.253
16.0	8572.644	8573.875	8609.979	8585.268	8587.456
16.5	8542.579	8547.050	8586.046	8564.281	8565.985
17.0	8513.450	8518.352	8560.841	8543.326	8543.873
17.5	8485.479	8487.404	8535.931	8521.119	8521.035
18.0	8458.117	8457.896	8512.893	8498.881	8498.565
18.5	8428.431	8429.167	8487.046	8475.906	8474.433
19.0	8397.471	8402.500	8455.235	8449.943	8449.649
19.5	8367.743	8373.287	8423.518	8424.244	8424.265
20.0	8339.950	8340.749	8391.970	8399.922	8398.155
20.5	8312.189	8307.360	8360.800	8373.297	8370.257
21.0	8285.101	8275.286	8328.883	8345.978	8343.463
21.5	8258.254	8245.168	8295.852	8317.490	8315.744
22.0	8230.041	8215.418	8260.306	8289.298	8287.899
22.5	8202.206	8186.216	8224.507	8260.085	8259.832
23.0	8173.466	8156.908	8188.888	8230.472	8229.273
23.5	8143.885	8126.527	8153.121	8200.281	8197.766
24.0	8113.946	8095.926	8118.007	8169.605	8166.250
24.5	8083.365	8065.692	8083.818	8138.478	8136.311
25.0	8051.901	8033.260	8047.883	8105.709	8103.111
25.5	8019.606	8001.638	8011.053	8072.562	8071.520
26.0	7985.743	7968.743	7973.603	8037.868	8036.942
26.5	7949.692	7935.659	7935.891	8004.941	8002.006

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**CANDELA TABULATION - (Cont.)**

27.0	7910.864	7901.491	7898.514	7970.269	7968.186
27.5	7870.606	7867.302	7861.296	7935.459	7932.082
28.0	7829.358	7830.505	7824.182	7899.440	7896.379
28.5	7788.279	7791.056	7787.301	7862.968	7859.812
29.0	7744.370	7751.113	7749.882	7825.098	7822.531
29.5	7696.863	7707.499	7711.990	7785.544	7783.755
30.0	7649.546	7664.715	7674.383	7745.432	7745.327
30.5	7603.480	7621.059	7635.502	7704.490	7705.205
31.0	7558.698	7574.131	7595.622	7663.821	7665.262
31.5	7512.738	7526.624	7555.258	7622.395	7624.604
32.0	7465.547	7476.508	7515.620	7579.348	7583.714
32.5	7419.829	7427.234	7473.826	7534.777	7541.835
33.0	7375.983	7380.559	7432.210	7489.742	7500.135
33.5	7332.789	7332.726	7389.711	7444.697	7457.036
34.0	7290.206	7282.842	7345.539	7399.368	7413.938
34.5	7246.991	7234.862	7302.524	7353.313	7370.407
35.0	7203.292	7188.481	7257.111	7307.153	7326.214
35.5	7159.478	7141.521	7210.098	7258.710	7281.348
36.0	7115.422	7096.812	7160.919	7209.983	7235.072
36.5	7070.597	7051.210	7110.604	7163.581	7189.185
37.0	7023.911	7004.839	7059.299	7112.771	7140.963
37.5	6977.025	6958.605	7008.027	7062.476	7093.320
38.0	6926.068	6910.762	6955.534	7011.519	7045.477
38.5	6871.019	6862.435	6901.684	6958.816	6998.044
39.0	6815.854	6814.507	6845.035	6906.901	6948.685
39.5	6760.289	6765.412	6787.924	6854.566	6898.780
40.0	6700.695	6713.214	6730.550	6800.327	6846.992
40.5	6638.167	6658.617	6675.974	6748.171	6795.782
41.0	6577.721	6601.464	6620.441	6694.226	6745.299
41.5	6518.853	6543.059	6562.572	6639.429	6692.553
42.0	6457.734	6484.043	6505.882	6583.759	6640.502
42.5	6398.582	6421.462	6449.076	6529.720	6585.737
43.0	6342.491	6356.651	6393.943	6472.219	6531.434
43.5	6287.515	6294.427	6339.514	6416.160	6476.690
44.0	6233.949	6233.066	6285.117	6358.702	6421.946
44.5	6178.080	6171.210	6229.731	6301.864	6364.761
45.0	6122.946	6110.575	6174.829	6245.079	6309.091
45.5	6067.013	6052.338	6118.454	6187.894	6252.254
46.0	6010.113	5994.270	6062.322	6129.279	6193.733
46.5	5953.264	5937.590	6005.978	6071.684	6134.612
47.0	5889.757	5881.636	5948.972	6013.121	6076.292
47.5	5822.852	5822.169	5890.336	5954.443	6015.015
48.0	5757.262	5764.553	5831.184	5894.533	5955.116
48.5	5686.034	5706.021	5769.097	5834.961	5894.912
49.0	5613.333	5644.029	5703.970	5773.747	5833.004
49.5	5545.586	5579.007	5639.201	5713.375	5771.706
50.0	5476.167	5511.503	5573.516	5651.961	5709.619
50.5	5409.841	5441.368	5503.434	5589.327	5645.702
51.0	5347.438	5368.656	5432.984	5527.303	5582.868
51.5	5285.751	5297.565	5363.134	5464.248	5517.972
52.0	5222.181	5225.758	5293.336	5400.457	5453.213
52.5	5159.778	5155.255	5224.537	5335.856	5387.360
53.0	5095.651	5088.971	5156.570	5271.728	5321.381
53.5	5028.725	5024.033	5089.381	5205.171	5254.087
54.0	4955.245	4959.684	5024.896	5138.971	5187.224
54.5	4879.967	4895.073	4959.790	5071.477	5119.478

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**CANDELA TABULATION - (Cont.)**

55.0	4799.165	4829.598	4893.768	5001.794	5050.553
55.5	4722.424	4763.893	4827.905	4931.734	4980.766
56.0	4645.042	4691.949	4761.841	4860.358	4890.791
56.5	4573.856	4615.913	4693.937	4787.331	4791.938
57.0	4506.456	4537.258	4625.023	4715.103	4718.269
57.5	4439.130	4457.729	4551.333	4641.465	4648.587
58.0	4371.005	4378.569	4475.455	4554.636	4577.253
58.5	4300.660	4304.774	4398.798	4447.588	4505.793
59.0	4222.100	4235.344	4320.511	4363.210	4434.439
59.5	4139.289	4165.988	4242.245	4286.227	4358.245
60.0	4055.385	4097.326	4166.630	4211.275	4101.177
60.5	3974.920	4027.686	4093.897	4135.323	3502.525
61.0	3900.241	3947.853	4022.132	4059.908	3129.057
61.5	3830.611	3867.230	3952.271	3982.915	3048.445
62.0	3759.772	3782.926	3881.463	3721.712	2992.690
62.5	3686.303	3699.758	3808.657	3141.154	2936.873
63.0	3604.250	3625.762	3734.430	2848.529	2879.646
63.5	3516.474	3554.807	3653.724	2781.098	2749.276
64.0	3429.424	3483.127	3571.165	2724.818	2243.997
64.5	3352.746	3408.974	3482.800	2668.065	1885.235
65.0	3280.834	3325.500	3375.542	2608.513	1828.598
65.5	3207.249	3236.704	3286.294	2364.731	1789.927
66.0	3125.774	3154.114	3209.122	1849.605	1751.152
66.5	3036.389	3080.403	3134.116	1698.501	1713.218
67.0	2949.286	3007.628	3057.386	1656.696	1675.095
67.5	2876.227	2932.560	2976.374	1617.121	1639.549
68.0	2802.906	2847.067	2755.725	1577.757	1604.624
68.5	2720.242	2757.555	2250.088	1538.981	1570.256
69.0	2629.058	2680.773	2074.189	1502.457	1536.309
69.5	2547.352	2608.808	2013.890	1467.385	1502.899
70.0	2474.262	2528.522	1957.442	1433.795	1468.289
70.5	2395.070	2439.652	1896.691	1401.353	1434.206
71.0	2303.423	2357.788	1625.337	1369.394	1401.458
71.5	2224.841	2285.160	1276.485	1337.257	1366.827
72.0	2152.161	2205.138	1225.486	1304.477	1333.165
72.5	2064.101	2117.246	1189.677	1272.066	1293.768
73.0	1981.564	2042.178	1153.594	1238.551	1255.950
73.5	1909.872	1966.310	1115.934	1201.816	1220.341
74.0	1821.371	1878.082	1080.451	1162.378	1195.789
74.5	1746.607	1803.771	1050.186	1124.781	1145.357
75.0	1667.321	1725.242	1018.396	1095.010	1100.249
75.5	1587.624	1643.568	984.039	1063.294	1058.718
76.0	1513.177	1566.964	954.352	1011.253	1014.440
76.5	1433.196	1475.895	922.299	968.291	969.963
77.0	1359.927	1403.846	888.289	923.004	926.559
77.5	1284.806	1320.141	855.152	878.253	883.671
78.0	1205.572	1189.677	814.473	836.048	843.097
78.5	1138.919	927.885	784.197	793.539	802.543
79.0	1065.629	865.419	742.445	751.250	756.173
79.5	996.389	805.100	700.398	711.548	710.581
80.0	923.172	586.302	656.205	666.062	672.216
80.5	858.666	548.200	612.138	615.378	591.288
81.0	791.319	522.542	571.627	579.748	348.169
81.5	728.590	500.598	532.262	399.136	233.715
82.0	665.967	480.369	492.940	233.925	227.813
82.5	608.687	457.594	447.905	226.614	223.132

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**CANDELA TABULATION - (Cont.)**

<b>83.0</b>	551.671	428.917	412.044	220.355	217.536
<b>83.5</b>	495.843	393.477	303.039	213.570	210.982
<b>84.0</b>	444.339	355.238	200.894	205.648	211.508
<b>84.5</b>	396.748	312.770	192.362	206.501	249.884
<b>85.0</b>	350.872	274.773	183.789	223.279	192.772
<b>85.5</b>	306.942	241.131	173.101	182.926	184.925
<b>86.0</b>	256.301	206.364	183.000	173.069	172.207
<b>86.5</b>	207.279	166.368	151.378	159.110	158.373
<b>87.0</b>	162.770	129.802	138.407	143.614	142.646
<b>87.5</b>	127.740	117.063	123.101	125.752	127.551
<b>88.0</b>	104.965	103.008	105.039	111.340	110.961
<b>88.5</b>	87.145	79.991	87.260	90.017	90.301
<b>89.0</b>	58.142	60.709	64.843	65.685	66.863
<b>89.5</b>	36.787	35.693	39.364	40.217	40.837
<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	3282.18	N.A.	13.00
0-30	7001.22	N.A.	27.70
0-40	11540.4	N.A.	45.60
0-60	20693.71	N.A.	81.80
0-80	25001.83	N.A.	98.80
0-90	25294.47	N.A.	100.00
10-90	24448.2	N.A.	96.70
20-40	8258.22	N.A.	32.60
20-50	13033.1	N.A.	51.50
40-70	12086.84	N.A.	47.80
60-80	4308.15	N.A.	17.00
70-80	1374.61	N.A.	5.40
80-90	292.61	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	25294.47	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	846.26
10-20	2435.92
20-30	3719.03
30-40	4539.18
40-50	4774.89
50-60	4378.42
60-70	2933.53
70-80	1374.61
80-90	292.61
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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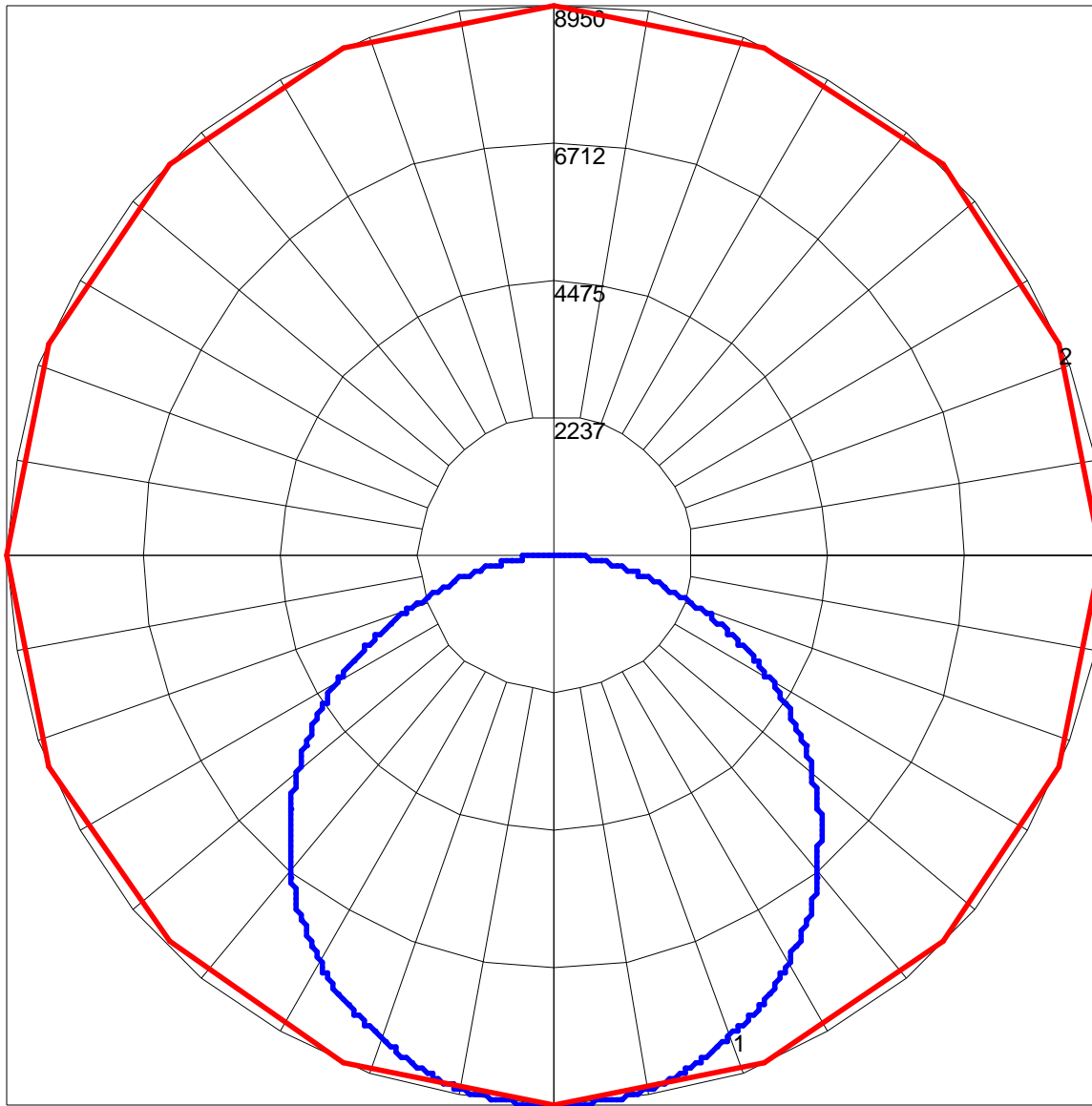
**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	66	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 = 8949.679 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.)