



**IES INDOOR REPORT**

**PHOTOMETRIC FILENAME : HBPA48-LED175DMV50.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-LED175DMV50  
 [LUMINAIRE] Mobern Lighting Co - 4' suspended high bay luminaire. Product ID: HBPA48-LED175DMV50  
 [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  
 [ISSUE DATE] Wednesday, April 12, 2017 9:02:43 AM

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	25544
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	144
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	21604	21787	22261
55	20876	21287	21969
65	19369	19928	10795
75	16073	9817	10606
85	10044	5261	5518

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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	9018.187	9018.187	9018.187	9018.187	9018.187
0.5	9038.106	9016.509	9027.355	9004.270	9010.411
1.0	9037.448	9015.096	9026.091	9004.780	9009.104
1.5	9035.737	9014.055	9023.828	9002.687	9007.033
2.0	9033.836	9011.824	9022.575	9001.009	9005.354
2.5	9031.180	9008.392	9019.324	8998.024	9002.560
3.0	9027.621	9005.396	9015.202	8994.348	8998.799
3.5	9023.446	9000.074	9010.443	8989.918	8994.571
4.0	9018.559	8995.347	9005.418	8984.585	8990.237
4.5	9013.162	8989.737	8999.872	8978.742	8983.618
5.0	9006.724	8983.990	8993.264	8973.218	8978.285
5.5	9000.117	8977.233	8986.157	8966.174	8972.400
6.0	8992.404	8970.052	8978.540	8958.175	8964.963
6.5	8984.011	8962.148	8970.349	8950.313	8956.592
7.0	8975.024	8952.597	8961.330	8941.241	8947.052
7.5	8965.579	8944.173	8951.609	8932.115	8936.513
8.0	8955.349	8934.017	8941.570	8920.928	8925.751
8.5	8944.322	8923.776	8930.267	8911.516	8915.277
9.0	8932.997	8912.610	8918.612	8899.702	8904.696
9.5	8920.982	8901.498	8906.342	8887.655	8892.500
10.0	8908.424	8888.760	8893.435	8875.321	8879.114
10.5	8895.060	8874.992	8879.847	8862.233	8866.004
11.0	8881.451	8861.298	8865.537	8848.252	8851.695
11.5	8866.026	8846.266	8850.133	8833.220	8835.834
12.0	8849.070	8830.979	8835.355	8817.795	8821.439
12.5	8830.437	8814.799	8819.378	8801.817	8805.216
13.0	8809.264	8796.909	8802.029	8784.872	8787.454
13.5	8786.349	8776.660	8785.095	8767.503	8769.659
14.0	8763.328	8754.839	8766.833	8749.517	8752.205
14.5	8739.764	8731.882	8748.540	8730.448	8733.528
15.0	8714.969	8707.596	8731.117	8711.315	8714.002
15.5	8687.879	8683.863	8715.819	8690.981	8694.317
16.0	8657.347	8658.590	8695.050	8670.095	8672.305
16.5	8626.985	8631.500	8670.881	8648.901	8650.622
17.0	8597.568	8602.518	8645.427	8627.739	8628.291
17.5	8569.320	8571.264	8620.270	8605.312	8605.227
18.0	8541.688	8541.465	8597.005	8582.854	8582.535
18.5	8511.708	8512.452	8570.903	8559.652	8558.165
19.0	8480.443	8485.521	8538.777	8533.433	8533.136
19.5	8450.421	8456.019	8506.747	8507.480	8507.501
20.0	8422.353	8423.161	8474.887	8482.918	8481.133
20.5	8394.318	8389.441	8443.409	8456.030	8452.960
21.0	8366.962	8357.050	8411.177	8428.440	8425.901
21.5	8339.850	8326.635	8377.819	8399.672	8397.908
22.0	8311.358	8296.591	8341.922	8371.201	8369.788
22.5	8283.248	8267.100	8305.770	8341.699	8341.444
23.0	8254.224	8237.503	8269.799	8311.794	8310.582
23.5	8224.351	8206.822	8233.678	8281.304	8278.765
24.0	8194.116	8175.918	8198.217	8250.326	8246.937
24.5	8163.233	8145.386	8163.690	8218.890	8216.702
25.0	8131.458	8112.633	8127.400	8185.798	8183.174
25.5	8098.844	8080.699	8090.207	8152.323	8151.271
26.0	8064.647	8047.479	8052.387	8117.286	8116.352
26.5	8028.240	8014.068	8014.301	8084.035	8081.071

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**CANDELA TABULATION - (Cont.)**

27.0	7989.028	7979.562	7976.556	8049.019	8046.916
27.5	7948.371	7945.036	7938.970	8013.866	8010.456
28.0	7906.716	7907.874	7901.490	7977.491	7974.399
28.5	7865.231	7868.036	7864.243	7940.659	7937.472
29.0	7820.889	7827.698	7826.455	7902.414	7899.822
29.5	7772.912	7783.653	7788.189	7862.469	7860.663
30.0	7725.128	7740.447	7750.210	7821.962	7821.855
30.5	7678.607	7696.359	7710.945	7780.615	7781.337
31.0	7633.382	7648.967	7670.671	7739.544	7740.999
31.5	7586.968	7600.991	7629.908	7697.708	7699.939
32.0	7539.311	7550.380	7589.879	7654.236	7658.645
32.5	7493.140	7500.619	7547.671	7609.224	7616.353
33.0	7448.861	7453.483	7505.644	7563.745	7574.241
33.5	7405.241	7405.177	7462.725	7518.255	7530.716
34.0	7362.237	7354.800	7418.117	7472.478	7487.191
34.5	7318.595	7306.346	7374.677	7425.968	7443.231
35.0	7274.465	7259.507	7328.815	7379.351	7398.601
35.5	7230.217	7212.083	7281.338	7330.430	7353.292
36.0	7185.726	7166.933	7231.673	7281.221	7306.559
36.5	7140.459	7120.880	7180.860	7234.361	7260.218
37.0	7093.311	7074.051	7129.049	7183.049	7211.520
37.5	7045.962	7027.360	7077.270	7132.257	7163.406
38.0	6994.501	6979.044	7024.258	7080.797	7115.090
38.5	6938.908	6930.239	6969.876	7027.573	7067.188
39.0	6883.198	6881.838	6912.668	6975.145	7017.342
39.5	6827.084	6832.258	6854.993	6922.293	6966.944
40.0	6766.902	6779.544	6797.052	6867.518	6914.644
40.5	6703.755	6724.408	6741.936	6814.846	6862.928
41.0	6642.712	6666.690	6685.855	6760.368	6811.946
41.5	6583.263	6607.708	6627.414	6705.030	6758.679
42.0	6521.540	6548.109	6570.164	6648.810	6706.114
42.5	6461.803	6484.910	6512.796	6594.237	6650.807
43.0	6405.158	6419.458	6457.118	6536.168	6595.968
43.5	6349.640	6356.619	6402.152	6479.555	6540.683
44.0	6295.544	6294.652	6347.217	6421.529	6485.398
44.5	6239.122	6232.185	6291.284	6364.130	6427.648
45.0	6183.444	6170.951	6235.840	6306.784	6371.428
45.5	6126.959	6112.139	6178.908	6249.034	6314.029
46.0	6069.496	6053.497	6122.221	6189.840	6254.930
46.5	6012.086	5996.257	6065.321	6131.676	6195.226
47.0	5947.951	5939.750	6007.751	6072.534	6136.329
47.5	5880.385	5879.695	5948.536	6013.276	6074.446
48.0	5814.147	5821.509	5888.799	5952.774	6013.956
48.5	5742.215	5762.400	5826.099	5892.613	5953.157
49.0	5668.796	5699.795	5760.328	5830.794	5890.637
49.5	5600.380	5634.131	5694.919	5769.826	5828.734
50.0	5530.275	5565.959	5628.585	5707.805	5766.033
50.5	5463.293	5495.132	5557.811	5644.553	5701.484
51.0	5400.274	5421.702	5486.665	5581.916	5638.030
51.5	5337.977	5349.908	5416.124	5518.238	5572.493
52.0	5273.779	5277.391	5345.637	5453.817	5507.094
52.5	5210.760	5206.192	5276.159	5388.577	5440.590
53.0	5145.999	5139.253	5207.520	5323.816	5373.959
53.5	5078.411	5073.673	5139.667	5256.601	5306.000
54.0	5004.206	5008.689	5074.544	5189.746	5238.477
54.5	4928.183	4943.439	5008.795	5121.586	5170.061

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**CANDELA TABULATION - (Cont.)**

55.0	4846.584	4877.318	4942.121	5051.215	5100.455
55.5	4769.085	4810.963	4875.607	4980.462	5029.978
56.0	4690.937	4738.308	4808.891	4908.381	4939.115
56.5	4619.048	4661.521	4740.316	4834.632	4839.285
57.0	4550.982	4582.088	4670.721	4761.691	4764.888
57.5	4482.991	4501.774	4596.303	4687.325	4694.518
58.0	4414.193	4421.832	4519.675	4599.638	4622.479
58.5	4343.153	4347.307	4442.261	4491.533	4550.313
59.0	4263.816	4277.192	4363.200	4406.321	4478.253
59.5	4180.188	4207.150	4284.161	4328.578	4401.307
60.0	4095.454	4137.810	4207.798	4252.885	4141.698
60.5	4014.194	4067.482	4134.347	4176.183	3537.132
61.0	3938.777	3986.860	4061.873	4100.022	3159.973
61.5	3868.460	3905.441	3991.322	4022.268	3078.565
62.0	3796.921	3820.303	3919.814	3758.485	3022.260
62.5	3722.726	3736.313	3846.288	3172.190	2965.891
63.0	3639.862	3661.587	3771.328	2876.674	2908.099
63.5	3551.219	3589.931	3689.824	2808.577	2776.441
64.0	3463.308	3517.542	3606.451	2751.741	2266.169
64.5	3385.873	3442.656	3517.212	2694.427	1903.862
65.0	3313.250	3358.358	3408.894	2634.287	1846.665
65.5	3238.938	3268.684	3318.764	2388.096	1807.613
66.0	3156.659	3185.279	3240.829	1867.880	1768.454
66.5	3066.390	3110.839	3165.083	1715.283	1730.146
67.0	2978.427	3037.345	3087.595	1673.065	1691.646
67.5	2904.646	2961.535	3005.783	1633.099	1655.749
68.0	2830.600	2875.198	2782.953	1593.346	1620.478
68.5	2747.120	2784.802	2272.320	1554.187	1585.771
69.0	2655.035	2707.260	2094.683	1517.302	1551.489
69.5	2572.521	2634.584	2033.789	1481.883	1517.748
70.0	2498.709	2553.505	1976.783	1447.962	1482.797
70.5	2418.734	2463.757	1915.432	1415.199	1448.376
71.0	2326.182	2381.084	1641.396	1382.925	1415.305
71.5	2246.823	2307.739	1289.097	1350.470	1380.332
72.0	2173.425	2226.926	1237.594	1317.366	1346.337
72.5	2084.495	2138.165	1201.431	1284.635	1306.552
73.0	2001.143	2062.356	1164.992	1250.788	1268.360
73.5	1928.743	1985.738	1126.960	1213.691	1232.399
74.0	1839.367	1896.638	1091.127	1173.863	1207.604
74.5	1763.865	1821.593	1060.563	1135.894	1156.674
75.0	1683.795	1742.288	1028.458	1105.830	1111.120
75.5	1603.311	1659.807	993.762	1073.800	1069.178
76.0	1528.128	1582.446	963.782	1021.245	1024.464
76.5	1447.357	1490.478	931.412	977.858	979.547
77.0	1373.363	1417.717	897.066	932.124	935.714
77.5	1297.500	1333.185	863.601	886.931	892.402
78.0	1217.484	1201.431	822.520	844.309	851.427
78.5	1150.173	937.053	791.945	801.379	810.473
79.0	1076.158	873.970	749.780	758.672	763.644
79.5	1006.234	813.054	707.318	718.579	717.602
80.0	932.294	592.095	662.688	672.643	678.857
80.5	867.150	553.616	618.186	621.458	597.130
81.0	799.138	527.705	577.275	585.476	351.609
81.5	735.789	505.544	537.521	403.080	236.024
82.0	672.547	485.115	497.810	236.237	230.064
82.5	614.702	462.115	452.331	228.853	225.337

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**CANDELA TABULATION - (Cont.)**

<b>83.0</b>	557.122	433.155	416.115	222.532	219.685
<b>83.5</b>	500.742	397.364	306.033	215.680	213.067
<b>84.0</b>	448.729	358.748	202.879	207.680	213.598
<b>84.5</b>	400.668	315.860	194.263	208.541	252.353
<b>85.0</b>	354.339	277.488	185.605	225.485	194.677
<b>85.5</b>	309.975	243.514	174.811	184.733	186.752
<b>86.0</b>	258.833	208.403	184.808	174.779	173.908
<b>86.5</b>	209.327	168.012	152.873	160.682	159.938
<b>87.0</b>	164.379	131.084	139.774	145.033	144.056
<b>87.5</b>	129.002	118.219	124.317	126.994	128.811
<b>88.0</b>	106.002	104.026	106.076	112.440	112.058
<b>88.5</b>	88.006	80.782	88.123	90.906	91.193
<b>89.0</b>	58.717	61.309	65.484	66.334	67.523
<b>89.5</b>	37.151	36.046	39.753	40.614	41.241
<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	3314.61	N.A.	13.00
0-30	7070.39	N.A.	27.70
0-40	11654.42	N.A.	45.60
0-60	20898.17	N.A.	81.80
0-80	25248.89	N.A.	98.80
0-90	25544.39	N.A.	100.00
10-90	24689.76	N.A.	96.70
20-40	8339.81	N.A.	32.60
20-50	13161.88	N.A.	51.50
40-70	12206.27	N.A.	47.80
60-80	4350.71	N.A.	17.00
70-80	1388.2	N.A.	5.40
80-90	295.50	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	25544.39	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	854.62
10-20	2459.99
20-30	3755.78
30-40	4584.03
40-50	4822.07
50-60	4421.68
60-70	2962.52
70-80	1388.2
80-90	295.50
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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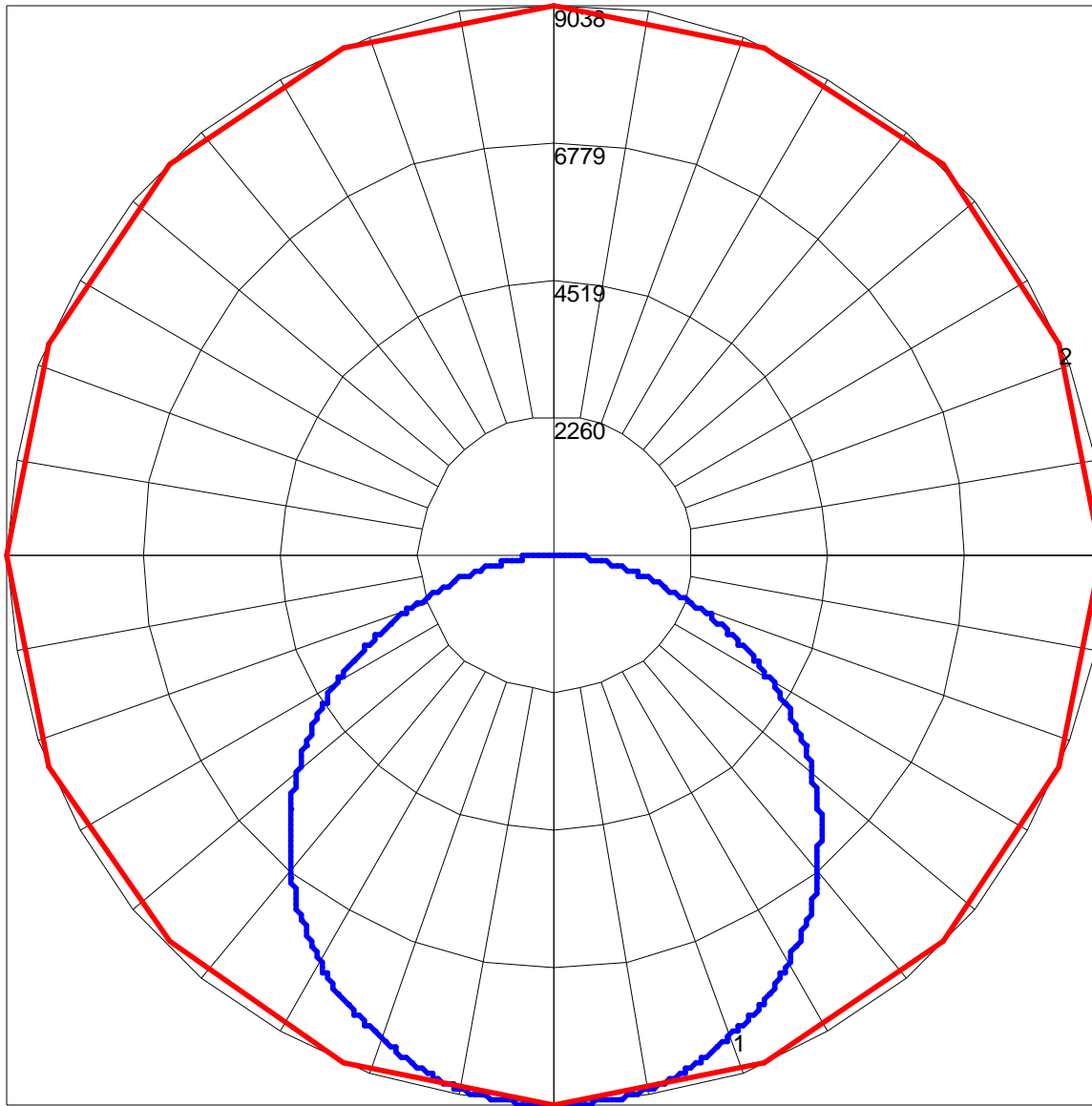
**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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 = 9038.106 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.)