



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HBPA48-LED175DMV35.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-LED175DMV35
 [LUMINAIRE] Mobern Lighting Co - 4' suspended high bay luminaire. Product ID: HBPA48-LED175DMV35
 [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	24795
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	140
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	20970	21148	21608
55	20263	20662	21324
65	18800	19343	10479
75	15601	9529	10295
85	9750	5107	5356

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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	8753.513	8753.513	8753.513	8753.513	8753.513
0.5	8772.848	8751.884	8762.412	8740.005	8745.965
1.0	8772.208	8750.512	8761.185	8740.500	8744.697
1.5	8770.548	8749.502	8758.989	8738.468	8742.686
2.0	8768.702	8747.336	8757.772	8736.839	8741.056
2.5	8766.124	8744.006	8754.616	8733.941	8738.344
3.0	8762.670	8741.098	8750.616	8730.373	8734.694
3.5	8758.617	8735.932	8745.996	8726.073	8730.590
4.0	8753.874	8731.343	8741.118	8720.897	8726.383
4.5	8748.636	8725.898	8735.736	8715.225	8719.959
5.0	8742.387	8720.319	8729.322	8709.863	8714.782
5.5	8735.973	8713.761	8722.423	8703.027	8709.069
6.0	8728.486	8706.790	8715.030	8695.262	8701.851
6.5	8720.340	8699.118	8707.079	8687.631	8693.725
7.0	8711.616	8689.848	8698.324	8678.825	8684.465
7.5	8702.449	8681.671	8688.889	8669.967	8674.236
8.0	8692.519	8671.813	8679.145	8659.109	8663.790
8.5	8681.815	8661.872	8668.173	8649.972	8653.623
9.0	8670.823	8651.035	8656.861	8638.506	8643.352
9.5	8659.160	8640.248	8644.951	8626.812	8631.514
10.0	8646.972	8627.885	8632.422	8614.840	8618.521
10.5	8633.999	8614.521	8619.233	8602.136	8605.797
11.0	8620.790	8601.229	8605.343	8588.566	8591.907
11.5	8605.817	8586.637	8590.391	8573.975	8576.511
12.0	8589.360	8571.799	8576.047	8559.002	8562.539
12.5	8571.273	8556.094	8560.538	8543.493	8546.793
13.0	8550.721	8538.729	8543.699	8527.046	8529.551
13.5	8528.479	8519.075	8527.262	8510.186	8512.279
14.0	8506.133	8497.894	8509.536	8492.728	8495.337
14.5	8483.262	8475.610	8491.779	8474.218	8477.209
15.0	8459.194	8452.038	8474.868	8455.647	8458.256
15.5	8432.899	8429.001	8460.019	8435.910	8439.148
16.0	8403.263	8404.469	8439.859	8415.637	8417.782
16.5	8373.792	8378.174	8416.400	8395.065	8396.736
17.0	8345.238	8350.044	8391.693	8374.524	8375.060
17.5	8317.819	8319.706	8367.275	8352.756	8352.673
18.0	8290.998	8290.782	8344.692	8330.957	8330.647
18.5	8261.899	8262.620	8319.356	8308.436	8306.992
19.0	8231.551	8236.480	8288.173	8282.986	8282.697
19.5	8202.410	8207.844	8257.083	8257.794	8257.815
20.0	8175.166	8175.950	8226.158	8233.954	8232.221
20.5	8147.953	8143.220	8195.604	8207.854	8204.874
21.0	8121.400	8111.780	8164.318	8181.075	8178.610
21.5	8095.085	8082.257	8131.939	8153.150	8151.439
22.0	8067.429	8053.095	8097.096	8125.515	8124.143
22.5	8040.144	8024.470	8062.005	8096.879	8096.632
23.0	8011.972	7995.741	8027.089	8067.851	8066.676
23.5	7982.975	7965.961	7992.029	8038.256	8035.792
24.0	7953.628	7935.964	7957.608	8008.187	8004.898
24.5	7923.651	7906.327	7924.095	7977.675	7975.550
25.0	7892.809	7874.536	7888.870	7945.553	7943.006
25.5	7861.151	7843.539	7852.768	7913.061	7912.040
26.0	7827.958	7811.294	7816.058	7879.053	7878.145
26.5	7792.619	7778.863	7779.090	7846.777	7843.900

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CANDELA TABULATION - (Cont.)

27.0	7754.559	7745.371	7742.452	7812.789	7810.747
27.5	7715.095	7711.857	7705.969	7778.667	7775.357
28.0	7674.663	7675.787	7669.589	7743.360	7740.359
28.5	7634.395	7637.118	7633.436	7707.609	7704.515
29.0	7591.354	7597.964	7596.757	7670.486	7667.970
29.5	7544.786	7555.211	7559.614	7631.714	7629.961
30.0	7498.403	7513.273	7522.749	7592.395	7592.292
30.5	7453.248	7470.479	7484.637	7552.262	7552.963
31.0	7409.351	7424.478	7445.545	7512.396	7513.809
31.5	7364.299	7377.910	7405.979	7471.789	7473.954
32.0	7318.040	7328.785	7367.124	7429.593	7433.872
32.5	7273.225	7280.484	7326.155	7385.902	7392.821
33.0	7230.245	7234.731	7285.362	7341.757	7351.945
33.5	7187.905	7187.843	7243.702	7297.602	7309.698
34.0	7146.163	7138.945	7200.403	7253.168	7267.450
34.5	7103.802	7091.913	7158.238	7208.023	7224.780
35.0	7060.967	7046.448	7113.722	7162.775	7181.460
35.5	7018.018	7000.416	7067.639	7115.289	7137.480
36.0	6974.833	6956.591	7019.431	7067.525	7092.119
36.5	6930.894	6911.889	6970.110	7022.040	7047.139
37.0	6885.130	6866.435	6919.819	6972.234	6999.870
37.5	6839.171	6821.115	6869.559	6922.933	6953.167
38.0	6789.220	6774.217	6818.104	6872.983	6906.269
38.5	6735.259	6726.844	6765.318	6821.321	6859.774
39.0	6681.184	6679.864	6709.789	6770.432	6811.391
39.5	6626.717	6631.739	6653.806	6719.131	6762.472
40.0	6568.301	6580.572	6597.565	6665.964	6711.707
40.5	6507.007	6527.053	6544.068	6614.838	6661.509
41.0	6447.756	6471.029	6489.632	6561.959	6612.023
41.5	6390.051	6413.778	6432.907	6508.245	6560.319
42.0	6330.139	6355.929	6377.337	6453.675	6509.297
42.5	6272.156	6294.584	6321.653	6400.703	6455.613
43.0	6217.174	6231.053	6267.609	6344.339	6402.384
43.5	6163.284	6170.059	6214.256	6289.387	6348.721
44.0	6110.777	6109.911	6160.933	6233.064	6295.059
44.5	6056.011	6049.277	6106.642	6177.350	6239.004
45.0	6001.967	5989.840	6052.825	6121.687	6184.434
45.5	5947.139	5932.754	5997.564	6065.632	6128.719
46.0	5891.363	5875.833	5942.540	6008.174	6071.355
46.5	5835.638	5820.273	5887.310	5951.717	6013.403
47.0	5773.385	5765.425	5831.430	5894.312	5956.234
47.5	5707.802	5707.132	5773.952	5836.793	5896.168
48.0	5643.508	5650.654	5715.969	5778.067	5837.452
48.5	5573.687	5593.280	5655.109	5719.671	5778.438
49.0	5502.422	5532.512	5591.269	5659.667	5717.753
49.5	5436.015	5468.775	5527.779	5600.488	5657.666
50.0	5367.967	5402.604	5463.392	5540.287	5596.806
50.5	5302.951	5333.856	5394.695	5478.891	5534.152
51.0	5241.782	5262.581	5325.637	5418.093	5472.560
51.5	5181.313	5192.893	5257.167	5356.284	5408.946
52.0	5118.999	5122.505	5188.748	5293.753	5345.467
52.5	5057.830	5053.396	5121.309	5230.428	5280.915
53.0	4994.969	4988.421	5054.685	5167.568	5216.239
53.5	4929.365	4924.766	4988.823	5102.325	5150.275
54.0	4857.338	4861.689	4925.612	5037.433	5084.733
54.5	4783.546	4798.354	4861.792	4971.272	5018.325

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55.0	4704.341	4734.174	4797.075	4902.967	4950.762
55.5	4629.117	4669.766	4732.513	4834.291	4882.354
56.0	4553.263	4599.244	4667.755	4764.325	4794.157
56.5	4483.484	4524.710	4601.193	4692.741	4697.257
57.0	4417.416	4447.609	4533.640	4621.940	4625.044
57.5	4351.420	4369.652	4461.406	4549.757	4556.739
58.0	4284.641	4292.056	4387.027	4464.644	4486.814
58.5	4215.686	4219.718	4311.885	4359.711	4416.766
59.0	4138.678	4151.661	4235.145	4277.000	4346.821
59.5	4057.504	4083.675	4158.425	4201.539	4272.133
60.0	3975.257	4016.370	4084.304	4128.067	4020.144
60.5	3896.382	3948.106	4013.008	4053.616	3433.321
61.0	3823.178	3869.850	3942.661	3979.691	3067.231
61.5	3754.925	3790.820	3874.181	3904.219	2988.212
62.0	3685.485	3708.181	3804.772	3648.177	2933.560
62.5	3613.468	3626.656	3733.404	3079.090	2878.845
63.0	3533.036	3554.123	3660.644	2792.247	2822.749
63.5	3446.994	3484.570	3581.532	2726.148	2694.955
64.0	3361.664	3414.306	3500.605	2670.980	2199.659
64.5	3286.501	3341.618	3413.986	2615.348	1847.986
65.0	3216.010	3259.794	3308.847	2556.973	1792.467
65.5	3143.879	3172.752	3221.362	2318.008	1754.561
66.0	3064.014	3091.794	3145.715	1813.060	1716.552
66.5	2976.395	3019.539	3072.191	1664.942	1679.368
67.0	2891.013	2948.202	2996.977	1623.962	1641.998
67.5	2819.398	2874.618	2917.566	1585.170	1607.154
68.0	2747.525	2790.814	2701.276	1546.583	1572.919
68.5	2666.495	2703.071	2205.630	1508.574	1539.231
69.0	2577.112	2627.805	2033.206	1472.771	1505.954
69.5	2497.020	2557.262	1974.099	1438.392	1473.204
70.0	2425.374	2478.562	1918.766	1405.466	1439.278
70.5	2347.747	2391.448	1859.216	1373.664	1405.868
71.0	2257.911	2311.202	1593.223	1342.337	1373.768
71.5	2180.882	2240.009	1251.263	1310.835	1339.821
72.0	2109.637	2161.568	1201.272	1278.703	1306.823
72.5	2023.317	2075.413	1166.171	1246.933	1268.206
73.0	1942.411	2001.828	1130.801	1214.079	1231.135
73.5	1872.136	1927.459	1093.885	1178.070	1196.229
74.0	1785.383	1840.974	1059.103	1139.411	1172.162
74.5	1712.097	1768.132	1029.436	1102.557	1122.727
75.0	1634.377	1691.154	998.274	1073.375	1078.510
75.5	1556.255	1611.093	964.596	1042.285	1037.799
76.0	1483.279	1536.003	935.496	991.272	994.397
76.5	1404.878	1446.734	904.076	949.159	950.799
77.0	1333.057	1376.108	870.738	904.767	908.252
77.5	1259.420	1294.057	838.256	860.900	866.211
78.0	1181.752	1166.171	798.380	819.529	826.438
78.5	1116.416	909.551	768.703	777.860	786.686
79.0	1044.574	848.320	727.775	736.406	741.232
79.5	976.702	789.192	686.559	697.489	696.541
80.0	904.932	574.717	643.239	652.901	658.934
80.5	841.700	537.368	600.043	603.219	579.605
81.0	775.684	512.218	560.332	568.293	341.289
81.5	714.195	490.707	521.746	391.250	229.097
82.0	652.808	470.878	483.200	229.303	223.312
82.5	596.661	448.553	439.055	222.137	218.723

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CANDELA TABULATION - (Cont.)

83.0	540.771	420.443	403.902	216.001	213.237
83.5	486.046	385.702	297.052	209.350	206.813
84.0	435.560	348.219	196.924	201.585	207.329
84.5	388.909	306.590	188.561	202.420	244.946
85.0	343.939	269.344	180.157	218.868	188.964
85.5	300.877	236.367	169.680	179.312	181.271
86.0	251.236	202.286	179.384	169.650	168.804
86.5	203.184	163.081	148.387	155.966	155.244
87.0	159.554	127.237	135.672	140.777	139.828
87.5	125.216	114.750	120.669	123.267	125.030
88.0	102.891	100.973	102.963	109.140	108.769
88.5	85.423	78.411	85.536	88.238	88.516
89.0	56.993	59.509	63.562	64.387	65.542
89.5	36.060	34.988	38.587	39.422	40.030
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	3217.33	N.A.	13.00
0-30	6862.88	N.A.	27.70
0-40	11312.38	N.A.	45.60
0-60	20284.83	N.A.	81.80
0-80	24507.84	N.A.	98.80
0-90	24794.69	N.A.	100.00
10-90	23965.13	N.A.	96.70
20-40	8095.05	N.A.	32.60
20-50	12775.59	N.A.	51.50
40-70	11848.03	N.A.	47.80
60-80	4223.02	N.A.	17.00
70-80	1347.45	N.A.	5.40
80-90	286.83	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	24794.69	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	829.54
10-20	2387.79
20-30	3645.55
30-40	4449.49
40-50	4680.54
50-60	4291.91
60-70	2875.57
70-80	1347.45
80-90	286.83
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

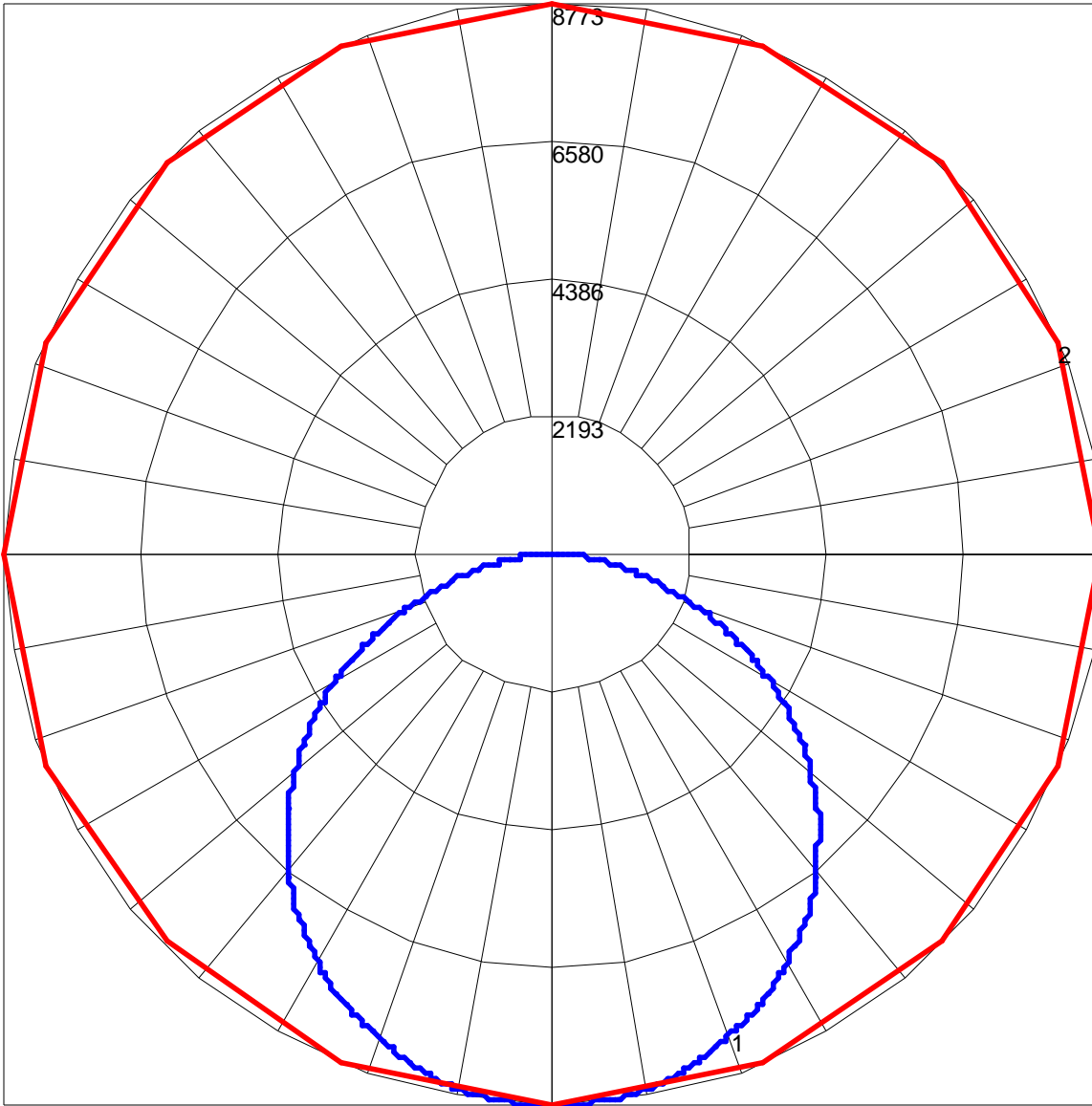
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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 = 8772.848 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.)