



IES INDOOR REPORT
PHOTOMETRIC FILENAME : HBPA48-LED175DMV30.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-LED175DMV30
 [LUMINAIRE] Mobern Lighting Co - 4' suspended high bay luminaire. Product ID: HBPA48-LED175DMV30
 [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 created: Wednesday, April 12, 2017 9:02:43 AM
 [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	24045
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	135
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	20336	20509	20955
55	19650	20038	20680
65	18232	18758	10162
75	15129	9241	9984
85	9455	4952	5195

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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	8488.84	8488.84	8488.84	8488.84	8488.84
0.5	8507.59	8487.26	8497.47	8475.74	8481.52
1.0	8506.97	8485.93	8496.28	8476.22	8480.29
1.5	8505.36	8484.95	8494.15	8474.25	8478.34
2.0	8503.57	8482.85	8492.97	8472.67	8476.76
2.5	8501.07	8479.62	8489.91	8469.86	8474.13
3.0	8497.72	8476.80	8486.03	8466.40	8470.59
3.5	8493.79	8471.79	8481.55	8462.23	8466.61
4.0	8489.19	8467.34	8476.82	8457.21	8462.53
4.5	8484.11	8462.06	8471.60	8451.71	8456.30
5.0	8478.05	8456.65	8465.38	8446.51	8451.28
5.5	8471.83	8450.29	8458.69	8439.88	8445.74
6.0	8464.57	8443.53	8451.52	8432.35	8438.74
6.5	8456.67	8436.09	8443.81	8424.95	8430.86
7.0	8448.21	8427.10	8435.32	8416.41	8421.88
7.5	8439.32	8419.17	8426.17	8407.82	8411.96
8.0	8429.69	8409.61	8416.72	8397.29	8401.83
8.5	8419.31	8399.97	8406.08	8388.43	8391.97
9.0	8408.65	8389.46	8395.11	8377.31	8382.01
9.5	8397.34	8379.00	8383.56	8365.97	8370.53
10.0	8385.52	8367.01	8371.41	8354.36	8357.93
10.5	8372.94	8354.05	8358.62	8342.04	8345.59
11.0	8360.13	8341.16	8345.15	8328.88	8332.12
11.5	8345.61	8327.01	8330.65	8314.73	8317.19
12.0	8329.65	8312.62	8316.74	8300.21	8303.64
12.5	8312.11	8297.39	8301.70	8285.17	8288.37
13.0	8292.18	8280.55	8285.37	8269.22	8271.65
13.5	8270.61	8261.49	8269.43	8252.87	8254.90
14.0	8248.94	8240.95	8252.24	8235.94	8238.47
14.5	8226.76	8219.34	8235.02	8217.99	8220.89
15.0	8203.42	8196.48	8218.62	8199.98	8202.51
15.5	8177.92	8174.14	8204.22	8180.84	8183.98
16.0	8149.18	8150.35	8184.67	8161.18	8163.26
16.5	8120.60	8124.85	8161.92	8141.23	8142.85
17.0	8092.91	8097.57	8137.96	8121.31	8121.83
17.5	8066.32	8068.15	8114.28	8100.20	8100.12
18.0	8040.31	8040.10	8092.38	8079.06	8078.76
18.5	8012.09	8012.79	8067.81	8057.22	8055.82
19.0	7982.66	7987.44	8037.57	8032.54	8032.26
19.5	7954.40	7959.67	8007.42	8008.11	8008.13
20.0	7927.98	7928.74	7977.43	7984.99	7983.31
20.5	7901.59	7897.00	7947.80	7959.68	7956.79
21.0	7875.84	7866.51	7917.46	7933.71	7931.32
21.5	7850.32	7837.88	7886.06	7906.63	7904.97
22.0	7823.50	7809.60	7852.27	7879.83	7878.50
22.5	7797.04	7781.84	7818.24	7852.06	7851.82
23.0	7769.72	7753.98	7784.38	7823.91	7822.77
23.5	7741.60	7725.10	7750.38	7795.21	7792.82
24.0	7713.14	7696.01	7717.00	7766.05	7762.86
24.5	7684.07	7667.27	7684.50	7736.46	7734.40
25.0	7654.16	7636.44	7650.34	7705.31	7702.84
25.5	7623.46	7606.38	7615.33	7673.80	7672.81
26.0	7591.27	7575.11	7579.73	7640.82	7639.94
26.5	7557.00	7543.66	7543.88	7609.52	7606.73

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CANDELA TABULATION - (Cont.)

27.0	7520.09	7511.18	7508.35	7576.56	7574.58
27.5	7481.82	7478.68	7472.97	7543.47	7540.26
28.0	7442.61	7443.70	7437.69	7509.23	7506.32
28.5	7403.56	7406.20	7402.63	7474.56	7471.56
29.0	7361.82	7368.23	7367.06	7438.56	7436.12
29.5	7316.66	7326.77	7331.04	7400.96	7399.26
30.0	7271.68	7286.10	7295.29	7362.83	7362.73
30.5	7227.89	7244.60	7258.33	7323.91	7324.59
31.0	7185.32	7199.99	7220.42	7285.25	7286.62
31.5	7141.63	7154.83	7182.05	7245.87	7247.97
32.0	7096.77	7107.19	7144.37	7204.95	7209.10
32.5	7053.31	7060.35	7104.64	7162.58	7169.29
33.0	7011.63	7015.98	7065.08	7119.77	7129.65
33.5	6970.57	6970.51	7024.68	7076.95	7088.68
34.0	6930.09	6923.09	6982.69	7033.86	7047.71
34.5	6889.01	6877.48	6941.80	6990.08	7006.33
35.0	6847.47	6833.39	6898.63	6946.20	6964.32
35.5	6805.82	6788.75	6853.94	6900.15	6921.67
36.0	6763.94	6746.25	6807.19	6853.83	6877.68
36.5	6721.33	6702.90	6759.36	6809.72	6834.06
37.0	6676.95	6658.82	6710.59	6761.42	6788.22
37.5	6632.38	6614.87	6661.85	6713.61	6742.93
38.0	6583.94	6569.39	6611.95	6665.17	6697.45
38.5	6531.61	6523.45	6560.76	6615.07	6652.36
39.0	6479.17	6477.89	6506.91	6565.72	6605.44
39.5	6426.35	6431.22	6452.62	6515.97	6558.00
40.0	6369.70	6381.60	6398.08	6464.41	6508.77
40.5	6310.26	6329.70	6346.20	6414.83	6460.09
41.0	6252.80	6275.37	6293.41	6363.55	6412.10
41.5	6196.84	6219.85	6238.40	6311.46	6361.96
42.0	6138.74	6163.75	6184.51	6258.54	6312.48
42.5	6082.51	6104.26	6130.51	6207.17	6260.42
43.0	6029.19	6042.65	6078.10	6152.51	6208.80
43.5	5976.93	5983.50	6026.36	6099.22	6156.76
44.0	5926.01	5925.17	5974.65	6044.60	6104.72
44.5	5872.90	5866.37	5922.00	5990.57	6050.36
45.0	5820.49	5808.73	5869.81	5936.59	5997.44
45.5	5767.32	5753.37	5816.22	5882.23	5943.41
46.0	5713.23	5698.17	5762.86	5826.51	5887.78
46.5	5659.19	5644.29	5709.30	5771.76	5831.58
47.0	5598.82	5591.10	5655.11	5716.09	5776.14
47.5	5535.22	5534.57	5599.37	5660.31	5717.89
48.0	5472.87	5479.80	5543.14	5603.36	5660.95
48.5	5405.16	5424.16	5484.12	5546.73	5603.72
49.0	5336.05	5365.23	5422.21	5488.54	5544.87
49.5	5271.65	5303.42	5360.64	5431.15	5486.60
50.0	5205.66	5239.25	5298.20	5372.77	5427.58
50.5	5142.61	5172.58	5231.58	5313.23	5366.82
51.0	5083.29	5103.46	5164.61	5254.27	5307.09
51.5	5024.65	5035.88	5098.21	5194.33	5245.40
52.0	4964.22	4967.62	5031.86	5133.69	5183.84
52.5	4904.90	4900.60	4966.46	5072.28	5121.24
53.0	4843.94	4837.59	4901.85	5011.32	5058.52
53.5	4780.32	4775.86	4837.98	4948.05	4994.55
54.0	4710.47	4714.69	4776.68	4885.12	4930.99
54.5	4638.91	4653.27	4714.79	4820.96	4866.59

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55.0	4562.10	4591.03	4652.03	4754.72	4801.07
55.5	4489.15	4528.57	4589.42	4688.12	4734.73
56.0	4415.59	4460.18	4526.62	4620.27	4649.20
56.5	4347.92	4387.90	4462.07	4550.85	4555.23
57.0	4283.85	4313.13	4396.56	4482.19	4485.20
57.5	4219.85	4237.53	4326.51	4412.19	4418.96
58.0	4155.09	4162.28	4254.38	4329.65	4351.15
58.5	4088.22	4092.13	4181.51	4227.89	4283.22
59.0	4013.54	4026.13	4107.09	4147.68	4215.39
59.5	3934.82	3960.20	4032.69	4074.50	4142.96
60.0	3855.06	3894.93	3960.81	4003.25	3898.59
60.5	3778.57	3828.73	3891.67	3931.05	3329.51
61.0	3707.58	3752.84	3823.45	3859.36	2974.49
61.5	3641.39	3676.20	3757.04	3786.17	2897.86
62.0	3574.05	3596.06	3689.73	3537.87	2844.86
62.5	3504.21	3517.00	3620.52	2985.99	2791.80
63.0	3426.21	3446.66	3549.96	2707.82	2737.40
63.5	3342.77	3379.21	3473.24	2643.72	2613.47
64.0	3260.02	3311.07	3394.76	2590.22	2133.15
64.5	3187.13	3240.58	3310.76	2536.27	1792.11
65.0	3118.77	3161.23	3208.80	2479.66	1738.27
65.5	3048.82	3076.82	3123.96	2247.92	1701.51
66.0	2971.37	2998.31	3050.60	1758.24	1664.65
66.5	2886.40	2928.24	2979.30	1614.60	1628.59
67.0	2803.60	2859.06	2906.36	1574.86	1592.35
67.5	2734.15	2787.70	2829.35	1537.24	1558.56
68.0	2664.45	2706.43	2619.60	1499.82	1525.36
68.5	2585.87	2621.34	2138.94	1462.96	1492.69
69.0	2499.19	2548.35	1971.73	1428.24	1460.42
69.5	2421.52	2479.94	1914.41	1394.90	1428.66
70.0	2352.04	2403.62	1860.75	1362.97	1395.76
70.5	2276.76	2319.14	1803.00	1332.13	1363.36
71.0	2189.64	2241.32	1545.05	1301.75	1332.23
71.5	2114.94	2172.28	1213.43	1271.20	1299.31
72.0	2045.85	2096.21	1164.95	1240.04	1267.31
72.5	1962.14	2012.66	1130.91	1209.23	1229.86
73.0	1883.68	1941.30	1096.61	1177.37	1193.91
73.5	1815.53	1869.18	1060.81	1142.45	1160.06
74.0	1731.40	1785.31	1027.08	1104.96	1136.72
74.5	1660.33	1714.67	998.31	1069.22	1088.78
75.0	1584.96	1640.02	968.09	1040.92	1045.90
75.5	1509.20	1562.38	935.43	1010.77	1006.42
76.0	1438.43	1489.56	907.21	961.30	964.33
76.5	1362.40	1402.99	876.74	920.46	922.05
77.0	1292.75	1334.50	844.41	877.41	880.79
77.5	1221.34	1254.93	812.91	834.87	840.02
78.0	1146.02	1130.91	774.24	794.75	801.45
78.5	1082.66	882.05	745.46	754.34	762.90
79.0	1012.99	822.67	705.77	714.14	718.82
79.5	947.17	765.33	665.80	676.40	675.48
80.0	877.57	557.34	623.79	633.16	639.01
80.5	816.25	521.12	581.90	584.98	562.08
81.0	752.23	496.73	543.39	551.11	330.97
81.5	692.60	475.87	505.97	379.42	222.17
82.0	633.07	456.64	468.59	222.37	216.56
82.5	578.62	434.99	425.78	215.42	212.11

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CANDELA TABULATION - (Cont.)

83.0	524.42	407.73	391.69	209.47	206.79
83.5	471.35	374.04	288.07	203.02	200.56
84.0	422.39	337.69	190.97	195.49	201.06
84.5	377.15	297.32	182.86	196.30	237.54
85.0	333.54	261.20	174.71	212.25	183.25
85.5	291.78	229.22	164.55	173.89	175.79
86.0	243.64	196.17	173.96	164.52	163.70
86.5	197.04	158.15	143.90	151.25	150.55
87.0	154.73	123.39	131.57	136.52	135.60
87.5	121.43	111.28	117.02	119.54	121.25
88.0	99.78	97.92	99.85	105.84	105.48
88.5	82.84	76.04	82.95	85.57	85.84
89.0	55.27	57.71	61.64	62.44	63.56
89.5	34.97	33.93	37.42	38.23	38.82
90.0	0.00	0.00	0.00	0.00	0.00

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	3120.05	N.A.	13.00
0-30	6655.37	N.A.	27.70
0-40	10970.33	N.A.	45.60
0-60	19671.49	N.A.	81.80
0-80	23766.85	N.A.	98.80
0-90	24044.99	N.A.	100.00
10-90	23240.54	N.A.	96.70
20-40	7850.28	N.A.	32.60
20-50	12389.31	N.A.	51.50
40-70	11489.79	N.A.	47.80
60-80	4095.34	N.A.	17.00
70-80	1306.71	N.A.	5.40
80-90	278.16	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	24044.99	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	804.46
10-20	2315.59
20-30	3535.32
30-40	4314.96
40-50	4539.02
50-60	4162.14
60-70	2788.62
70-80	1306.71
80-90	278.16
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

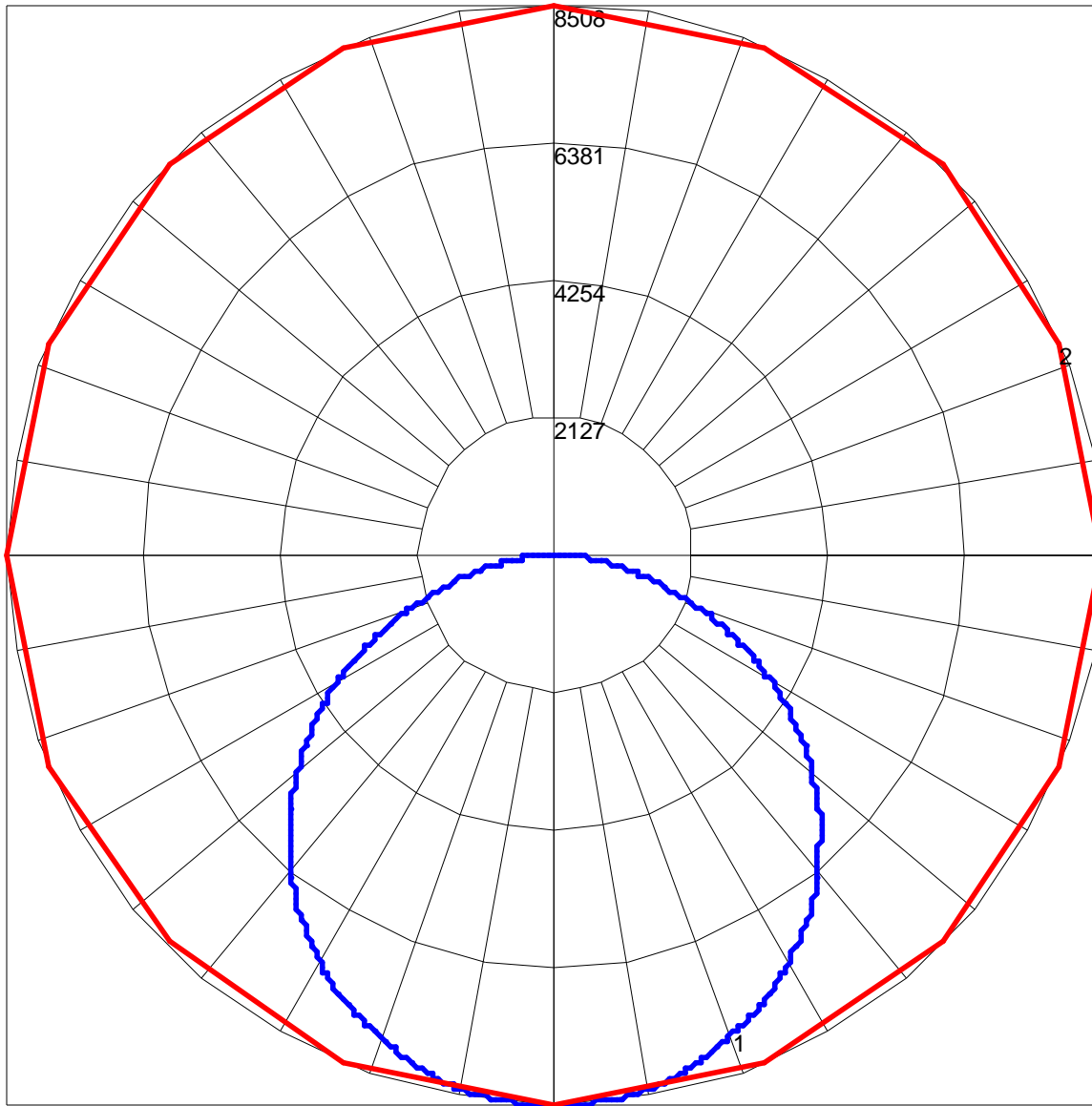
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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 = 8507.59 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.)