



IES INDOOR REPORT
PHOTOMETRIC FILENAME : HBPA48-LED355DMV30.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] LLI-17027-2-R01
 [TESTLAB] LightLab international (www.LightLabInt.com)
 [MANUFAC] Mobern Lighting Co
 [LUMCAT] HBPA48-LED355DMV30
 [LUMINAIRE] Mobern Lighting Co - 4' suspended high bay luminaire. Product ID: HBPA48-LED355DMV30
 [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 four rows on ~ 2.5" centers.
 [MORE] Two 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 9:10:54 AM
 [ISSUEDATE] Wednesday, April 12, 2017 9:10:54 AM

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	46955
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	133
Total Luminaire Watts	354.2
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	39172	39549	40369
55	37781	38553	39716
65	35083	36177	29242
75	29041	24245	18174
85	17622	8029	7357

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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	16410.461	16410.461	16410.461	16410.461	16410.461
0.5	16410.420	16415.750	16419.391	16398.029	16404.381
1.0	16409.340	16413.660	16417.131	16397.189	16400.779
1.5	16406.189	16411.570	16414.270	16393.660	16398.881
2.0	16401.461	16407.539	16410.359	16389.881	16394.141
2.5	16396.789	16401.980	16404.789	16383.880	16389.439
3.0	16390.230	16395.740	16398.061	16376.590	16383.690
3.5	16382.550	16388.770	16390.211	16370.040	16374.830
4.0	16373.810	16379.870	16381.510	16360.490	16366.400
4.5	16364.780	16369.920	16371.830	16351.000	16356.020
5.0	16353.440	16358.640	16360.550	16338.740	16344.520
5.5	16340.800	16347.230	16348.240	16324.950	16330.990
6.0	16327.280	16334.180	16335.040	16312.110	16317.610
6.5	16312.930	16319.850	16320.160	16296.980	16303.130
7.0	16297.030	16304.080	16303.640	16280.390	16287.980
7.5	16279.810	16287.150	16286.620	16264.180	16270.330
8.0	16261.220	16269.060	16267.240	16245.070	16250.800
8.5	16242.210	16248.500	16248.100	16225.780	16230.640
9.0	16221.240	16228.720	16226.780	16204.380	16209.170
9.5	16199.730	16207.350	16204.640	16183.510	16186.310
10.0	16175.670	16184.400	16181.170	16160.530	16163.430
10.5	16149.560	16159.500	16156.640	16136.550	16136.960
11.0	16121.790	16134.380	16130.130	16109.130	16113.360
11.5	16089.550	16105.510	16103.050	16082.320	16085.490
12.0	16053.800	16075.530	16075.360	16053.490	16057.670
12.5	16012.490	16040.830	16045.690	16025.120	16028.840
13.0	15968.030	16001.940	16014.820	15995.080	15995.970
13.5	15924.260	15959.950	15983.860	15962.420	15964.080
14.0	15876.560	15915.810	15952.140	15929.010	15931.140
14.5	15830.610	15870.170	15919.630	15893.800	15895.170
15.0	15781.560	15822.950	15886.180	15859.300	15861.400
15.5	15732.770	15774.870	15851.400	15822.940	15824.410
16.0	15681.970	15724.570	15812.300	15784.430	15785.720
16.5	15631.730	15673.750	15768.550	15745.380	15745.250
17.0	15579.060	15621.600	15721.910	15706.190	15705.220
17.5	15523.960	15569.010	15669.330	15665.050	15662.840
18.0	15472.720	15517.210	15615.390	15623.830	15619.290
18.5	15423.110	15463.640	15557.270	15580.100	15575.120
19.0	15375.080	15408.730	15497.350	15533.710	15529.730
19.5	15327.350	15354.800	15439.120	15486.730	15482.040
20.0	15281.040	15301.970	15381.240	15437.260	15433.470
20.5	15232.660	15249.420	15321.820	15387.540	15384.810
21.0	15184.300	15197.460	15261.560	15336.570	15334.440
21.5	15133.610	15146.130	15201.080	15285.150	15283.840
22.0	15081.970	15093.400	15137.830	15232.250	15230.340
22.5	15030.800	15040.450	15076.670	15179.110	15175.640
23.0	14977.650	14986.330	15013.190	15124.390	15121.360
23.5	14922.670	14930.140	14946.800	15067.570	15063.850
24.0	14866.920	14875.390	14880.420	15010.300	15006.470
24.5	14811.590	14818.580	14814.230	14951.770	14948.040
25.0	14752.590	14760.830	14748.510	14891.870	14887.000
25.5	14689.400	14701.480	14684.700	14832.430	14826.520
26.0	14621.270	14641.390	14621.240	14769.670	14764.430
26.5	14547.750	14578.550	14556.140	14704.450	14699.780

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27.0	14473.51014514.80014492.02014640.38014635.190
27.5	14398.30014445.64014427.07014573.58014570.070
28.0	14319.13014371.66014361.14014505.29014502.870
28.5	14238.99014294.47014294.25014435.08014434.770
29.0	14155.03014215.78014226.59014363.28014366.060
29.5	14070.65014134.25014156.83014290.08014296.370
30.0	13989.49014051.55014086.94014214.78014225.200
30.5	13905.63013966.07014015.19014136.88014151.620
31.0	13820.09013878.65013941.58014056.58014077.360
31.5	13738.45013791.62013868.22013977.63014001.990
32.0	13660.69013705.13013794.14013897.76013924.670
32.5	13584.00013615.69013717.84013814.04013847.140
33.0	13508.65013526.69013641.02013730.97013769.550
33.5	13432.15013440.92013562.09013646.35013690.760
34.0	13354.80013357.75013479.89013559.01013608.960
34.5	13275.08013275.56013395.56013472.96013527.160
35.0	13195.84013193.85013308.45013385.48013445.160
35.5	13113.78013112.05013215.29013295.70013360.020
36.0	13032.39013029.52013122.85013204.67013275.330
36.5	12948.10012945.88013028.45013114.40013190.680
37.0	12861.78012859.47012931.21013020.91013102.520
37.5	12765.68012773.00012833.66012928.45013014.650
38.0	12666.19012687.10012734.57012834.79012925.890
38.5	12564.05012597.72012633.05012738.46012834.000
39.0	12459.20012507.45012531.51012643.18012743.560
39.5	12353.57012412.92012429.77012546.29012650.170
40.0	12241.34012311.28012325.13012447.58012556.040
40.5	12132.81012205.63012222.29012348.10012462.020
41.0	12025.25012098.61012119.94012248.34012366.350
41.5	11914.10011987.27012016.57012146.59012268.090
42.0	11808.72011875.53011918.71012046.82012170.520
42.5	11709.13011761.56011819.64011946.00012070.400
43.0	11610.01011648.94011720.43011844.10011968.730
43.5	11512.75011534.38011622.92011743.01011866.540
44.0	11414.48011421.69011522.87011640.78011763.760
44.5	11312.54011313.25011421.44011537.38011658.350
45.0	11211.61011208.40011319.29011433.94011554.170
45.5	11108.26011105.32011217.26011328.60011446.900
46.0	11002.63011000.21011112.00011221.39011338.920
46.5	10891.93010896.65011008.09011115.28011232.940
47.0	10769.15010790.93010901.62011007.37011122.790
47.5	10645.13010684.34010790.99010898.45011010.050
48.0	10518.00010576.03010676.81010788.76010899.430
48.5	10390.05010466.43010557.17010677.82010787.640
49.0	10261.05010345.49010435.06010565.75010671.730
49.5	10135.04010219.96010313.19010452.49010557.710
50.0	10015.28010091.81010188.12010339.03010441.730
50.5	9900.200 9959.340 10058.38010223.50010325.070
51.0	9788.830 9826.960 9932.370 10108.42010206.110
51.5	9676.490 9697.070 9804.940 9993.050 10087.650
52.0	9562.310 9565.340 9675.620 9873.260 9965.790
52.5	9446.900 9445.250 9553.130 9754.470 9845.450
53.0	9329.240 9327.020 9431.840 9634.160 9722.620
53.5	9194.980 9209.730 9312.110 9509.310 9598.460
54.0	9059.150 9092.900 9192.330 9384.410 9474.460
54.5	8917.160 8974.350 9072.720 9254.730 9348.970

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CANDELA TABULATION - (Cont.)

55.0	8771.310	8853.890	8950.690	9124.190	9220.650
55.5	8630.450	8727.070	8830.390	8994.640	9094.010
56.0	8499.000	8589.420	8707.710	8861.930	8964.300
56.5	8373.630	8444.880	8579.320	8726.840	8814.520
57.0	8252.140	8299.660	8446.450	8592.090	8657.980
57.5	8129.410	8154.020	8307.890	8454.820	8523.150
58.0	8002.600	8013.370	8166.260	8315.040	8391.260
58.5	7868.900	7884.440	8024.220	8165.750	8258.520
59.0	7719.130	7759.500	7879.830	7998.650	8125.560
59.5	7567.010	7632.960	7737.720	7851.640	7984.570
60.0	7411.930	7506.450	7602.380	7714.340	7778.050
60.5	7268.780	7373.190	7471.920	7577.980	7412.870
61.0	7137.190	7222.770	7340.600	7440.630	6998.580
61.5	7009.730	7070.320	7209.980	7300.660	6640.280
62.0	6880.380	6915.420	7079.870	7087.130	6430.530
62.5	6741.720	6767.360	6944.580	6728.320	6296.140
63.0	6586.300	6635.960	6801.790	6337.540	6165.190
63.5	6424.990	6505.390	6650.600	6012.280	5978.470
64.0	6268.060	6372.940	6495.920	5832.660	5696.310
64.5	6133.200	6232.860	6342.100	5703.450	5342.180
65.0	6001.410	6075.160	6188.520	5566.600	5002.230
65.5	5867.630	5912.090	6028.650	5344.960	4806.890
66.0	5710.410	5763.570	5884.790	5031.030	4688.850
66.5	5547.920	5630.420	5748.180	4699.060	4571.930
67.0	5391.490	5497.400	5606.580	4420.820	4459.130
67.5	5256.600	5355.680	5448.690	4287.960	4350.860
68.0	5125.000	5196.060	5233.600	4167.460	4242.280
68.5	4967.020	5031.770	4894.090	4052.700	4131.150
69.0	4800.900	4894.000	4526.470	3945.010	4021.990
69.5	4654.310	4760.710	4301.740	3839.470	3911.340
70.0	4520.850	4613.220	4166.070	3733.890	3798.600
70.5	4373.990	4448.110	4019.840	3629.340	3663.760
71.0	4205.850	4298.270	3790.170	3525.250	3552.540
71.5	4060.630	4164.470	3493.650	3414.130	3440.910
72.0	3929.590	4019.160	3213.160	3290.390	3287.280
72.5	3768.340	3854.300	3085.290	3169.190	3115.710
73.0	3611.410	3714.810	2969.330	3047.520	2865.850
73.5	3482.980	3579.110	2852.930	2876.500	2601.030
74.0	3321.120	3416.040	2748.920	2679.250	2358.020
74.5	3177.100	3276.660	2649.830	2445.010	2120.780
75.0	3042.400	3137.830	2539.940	2176.600	1903.920
75.5	2885.520	2980.390	2428.310	1970.310	1798.190
76.0	2755.100	2850.360	2329.350	1762.980	1715.560
76.5	2600.420	2688.900	2211.890	1635.020	1629.210
77.0	2478.780	2554.790	2095.660	1553.410	1547.480
77.5	2324.890	2401.870	1941.320	1467.200	1441.820
78.0	2193.420	2250.210	1735.570	1387.190	1291.700
78.5	2068.420	1968.670	1502.680	1277.510	1064.950
79.0	1922.300	1791.830	1323.010	1123.130	874.250
79.5	1801.580	1669.310	1164.960	907.360	776.260
80.0	1669.180	1474.480	1087.010	750.880	738.240
80.5	1552.280	1307.820	1010.560	705.260	673.570
81.0	1422.730	1214.350	937.420	681.480	493.810
81.5	1312.460	1136.430	832.120	556.690	319.880
82.0	1200.920	1055.400	654.580	352.590	309.750
82.5	1089.070	960.470	533.240	317.820	314.620

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CANDELA TABULATION - (Cont.)

83.0	987.120	865.980	516.000	317.520	325.460
83.5	892.170	749.870	441.130	324.090	305.380
84.0	801.880	613.560	298.850	309.460	282.030
84.5	712.510	515.580	286.120	283.780	301.830
85.0	621.660	451.390	283.230	294.520	259.550
85.5	540.080	379.720	263.530	252.260	243.200
86.0	457.760	309.610	244.720	236.220	224.490
86.5	375.550	265.790	218.900	215.160	204.220
87.0	295.980	214.780	196.210	192.410	182.130
87.5	234.470	192.360	171.560	167.650	162.570
88.0	197.770	161.140	145.590	147.660	141.230
88.5	165.550	129.780	120.600	120.210	115.880
89.0	108.250	99.260	90.850	88.740	86.920
89.5	68.790	59.280	56.200	55.550	53.980
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	6027.77	N.A.	12.80
0-30	12853.23	N.A.	27.40
0-40	21174.19	N.A.	45.10
0-60	37927.44	N.A.	80.80
0-80	46480.79	N.A.	99.00
0-90	46954.99	N.A.	100.00
10-90	45399.76	N.A.	96.70
20-40	15146.42	N.A.	32.30
20-50	23891.17	N.A.	50.90
40-70	22533.9	N.A.	48.00
60-80	8553.35	N.A.	18.20
70-80	2772.7	N.A.	5.90
80-90	474.19	N.A.	1.00
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	46954.99	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	1555.23
10-20	4472.54
20-30	6825.47
30-40	8320.96
40-50	8744.76
50-60	8008.5
60-70	5780.65
70-80	2772.7
80-90	474.19
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

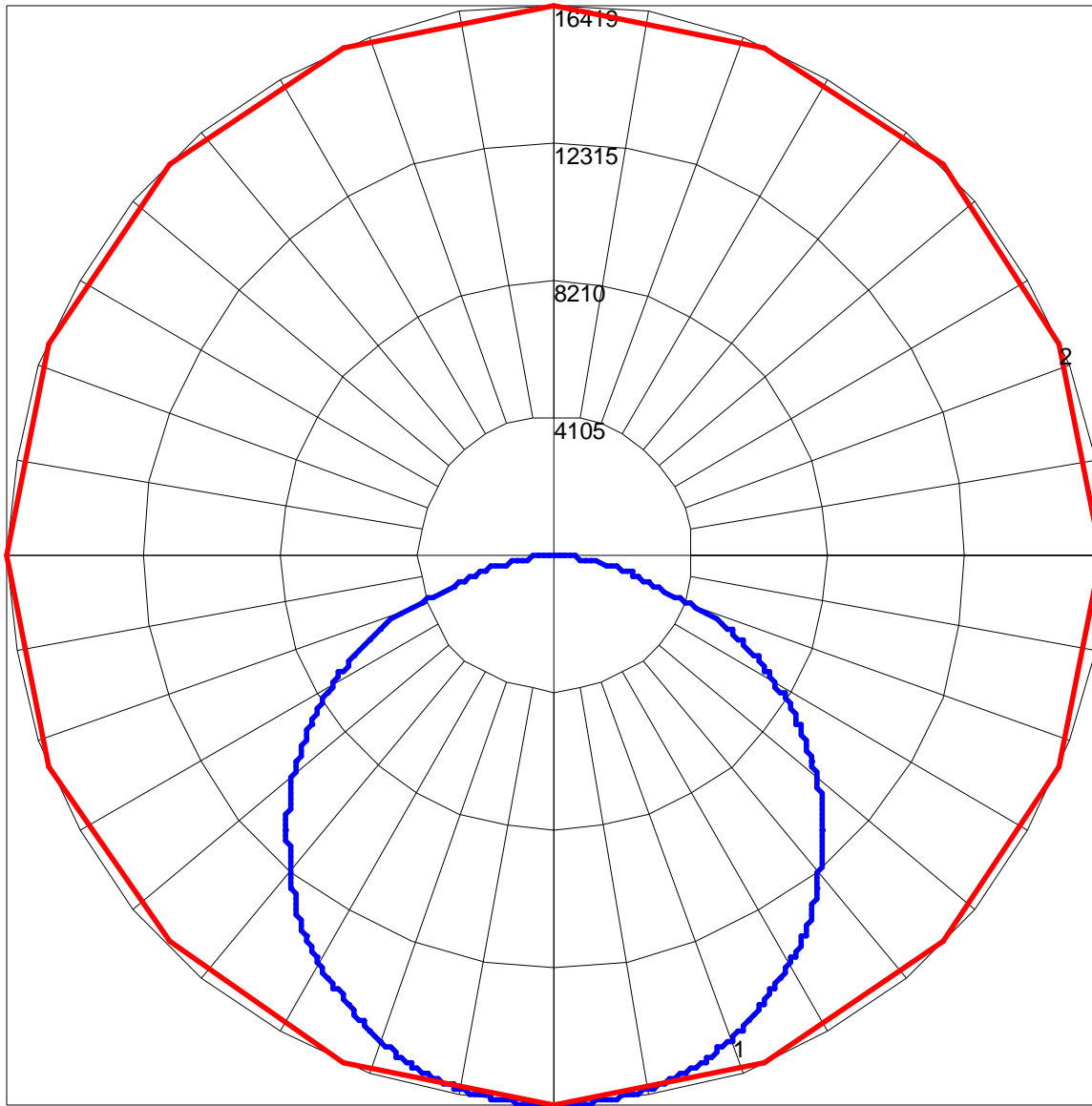
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	62	56	81	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	47	60	53	47	58	52	46	56	51	46	44
6	70	57	48	42	68	56	48	41	54	47	41	52	46	41	51	45	40	38
7	65	52	43	37	63	51	42	37	49	42	36	48	41	36	46	40	36	34
8	61	47	38	33	59	46	38	33	45	38	32	44	37	32	43	36	32	30
9	57	43	35	29	55	43	35	29	41	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	26	38	31	26	37	31	26	36	30	26	24

POLAR GRAPH



Maximum Candela = 16419.391 Located At Horizontal Angle = 45, Vertical Angle = .5
1 - Vertical Plane Through Horizontal Angles (45 - 225) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (.5) (Through Max. Cd.)