



IES INDOOR REPORT
PHOTOMETRIC FILENAME : HBPA48-LED355DMV40.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-LED355DMV40
 [LUMINAIRE] Mobern Lighting Co - 4' suspended high bay luminaire. Product ID: HBPA48-LED355DMV40
 [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 extrapolated from LLI-17027-2-R01 Wednesday, June 28, 2017
 [ISSUE DATE] Wednesday, April 12, 2017 9:10:54 AM

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	49395
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	139
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	41208	41604	42467
55	39744	40557	41780
65	36907	38057	30762
75	30550	25505	19118
85	18538	8446	7740

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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	17263.21517263.21517263.21517263.21517263.215				
0.5	17263.17217268.77917272.60917250.13717256.819				
1.0	17262.03617266.58017270.23217249.25317253.030				
1.5	17258.72117264.38217267.22217245.54117251.033				
2.0	17253.74717260.14117263.10817241.56617246.047				
2.5	17248.83217254.29317257.24817235.25317241.101				
3.0	17241.93317247.72917250.17117227.58417235.053				
3.5	17233.85417240.39717241.91317220.69317225.732				
4.0	17224.65917231.03417232.76017210.64717216.864				
4.5	17215.16017220.56717222.57717200.66417205.945				
5.0	17203.23117208.70117210.71017187.76717193.847				
5.5	17189.93417196.69817197.76117173.26017179.614				
6.0	17175.71217182.97017183.87517159.75317165.539				
6.5	17160.61617167.89517168.22217143.83717150.307				
7.0	17143.89017151.30617150.84317126.38517134.369				
7.5	17125.77517133.49617132.93917109.33317115.802				
8.0	17106.21917114.46617112.55217089.23017095.257				
8.5	17086.22117092.83817092.41717068.93717074.050				
9.0	17064.16117072.03017069.98917046.42517051.464				
9.5	17041.53317049.54917046.69917024.47117027.416				
10.0	17016.22317025.40717022.00917000.29717003.347				
10.5	16988.75616999.21316996.20416975.07016975.502				
11.0	16959.54316972.78816968.31716946.22616950.675				
11.5	16925.62816942.41716939.83016918.02216921.357				
12.0	16888.02016910.88016910.70116887.69416892.091				
12.5	16844.56416874.37616879.48916857.85016861.763				
13.0	16797.79316833.46616847.01516826.24916827.185				
13.5	16751.74916789.29416814.44616791.89216793.638				
14.0	16701.57016742.86016781.07816756.74616758.986				
14.5	16653.23316694.84816746.87816719.70616721.147				
15.0	16601.63416645.17416711.69016683.41316685.622				
15.5	16550.30816594.59616675.10316645.16416646.710				
16.0	16496.86916541.68216633.97116604.65316606.010				
16.5	16444.01816488.22116587.94816563.57416563.437				
17.0	16388.61116433.36216538.88416522.34716521.327				
17.5	16330.64816378.03916483.57216479.06916476.745				
18.0	16276.74516323.54716426.82916435.70716430.931				
18.5	16224.55716267.19316365.68916389.70516384.466				
19.0	16174.03116209.43016302.65516340.90416336.718				
19.5	16123.82116152.69816241.39916291.48316286.549				
20.0	16075.10516097.12216180.51116239.44216235.456				
20.5	16024.21116041.84216118.00416187.13916184.267				
21.0	15973.33815987.18116054.61216133.52016131.280				
21.5	15920.01415933.18415990.99016079.42816078.050				
22.0	15865.69015877.71415924.45316023.77916021.770				
22.5	15811.86115822.01315860.11515967.87815964.228				
23.0	15755.94915765.08015793.33615910.31415907.127				
23.5	15698.11215705.97015723.49615850.54215846.629				
24.0	15639.46515648.37515653.66715790.29615786.267				
24.5	15581.26015588.61315584.03715728.72415724.801				
25.0	15519.19415527.86215514.90215665.71215660.589				
25.5	15452.72115465.42815447.77615603.18315596.966				
26.0	15381.05015402.21615381.01915537.16215531.649				
26.5	15303.71015336.11015312.53615468.55315463.640				

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27.0	15225.61215269.04815245.08415401.15315395.694
27.5	15146.49415196.29415176.75915330.88215327.190
28.0	15063.21015118.47015107.40315259.04415256.498
28.5	14978.90615037.26815037.03715185.18515184.859
29.0	14890.58314954.48914965.86115109.65415112.579
29.5	14801.81814868.72314892.47615032.65015039.267
30.0	14716.44014781.72514818.95414953.43714964.399
30.5	14628.22314691.80314743.47614871.48914886.995
31.0	14538.23814599.84114666.04114787.01714808.877
31.5	14452.35514508.28814588.86914703.96414729.590
32.0	14370.55514417.30414510.93914619.94414648.252
32.5	14289.88014323.21614430.67414531.87314566.693
33.0	14210.61414229.59214349.86314444.48714485.072
33.5	14130.13914139.36514266.83114355.47014402.187
34.0	14048.76914051.87314180.36014263.59114316.137
34.5	13964.90713965.41214091.64714173.06914230.086
35.0	13881.54913879.45614000.01114081.04414143.825
35.5	13795.22513793.40513902.01013986.59814054.261
36.0	13709.60613706.58713804.76613890.83813965.170
36.5	13620.93613618.60013705.46113795.87713876.121
37.0	13530.13013527.70013603.16813697.52913783.380
37.5	13429.03613436.73713500.54913600.26513690.944
38.0	13324.37613346.37313396.31013501.73813597.572
38.5	13216.92913252.34813289.51413400.40213500.907
39.0	13106.63013157.38813182.69813300.17113405.767
39.5	12995.51113057.94613075.67113198.24613307.524
40.0	12877.45012951.02412965.59413094.40713208.503
40.5	12763.28012839.88412857.41012989.75713109.597
41.0	12650.13112727.30312749.74112884.81313008.956
41.5	12533.20512610.17712641.00012777.77612905.590
42.0	12422.34912492.63112538.05412672.82112802.949
42.5	12317.58412372.73812433.83612566.76212697.627
43.0	12213.31312254.26612329.47112459.56712590.674
43.5	12110.99912133.75312226.89412353.22412483.173
44.0	12007.62312015.20712121.64512245.68212375.053
44.5	11900.38511901.13212014.94412136.90912264.165
45.0	11794.21111790.83411907.48612028.09412154.571
45.5	11685.49011682.39711800.15411917.28012041.727
46.0	11574.37111571.82511689.42411804.49911928.136
46.5	11457.91911462.88411580.11511692.87511816.649
47.0	11328.75911351.67011468.11211579.35711700.775
47.5	11198.29411239.54211351.73311464.77811582.177
48.0	11064.55811125.60311231.62011349.38811465.808
48.5	10929.95911010.30811105.76311232.68311348.209
49.0	10794.25610883.08410977.30811114.78911226.276
49.5	10661.69810751.03010849.10510995.64411106.331
50.0	10535.71410616.22110717.53610876.28810984.325
50.5	10414.65410476.86810581.05410754.75410861.602
51.0	10297.49710337.60910448.49610633.69410736.461
51.5	10179.32010200.96910314.44410512.32910611.845
52.0	10059.20610062.39410178.40410386.31510483.653
52.5	9937.799 9936.063 10049.54910261.35210357.059
53.0	9814.025 9811.690 9921.957 10134.79010227.847
53.5	9672.788 9688.305 9796.005 10003.45210097.235
54.0	9529.900 9565.404 9670.001 9872.062 9966.791
54.5	9380.532 9440.694 9544.175 9735.643 9834.780

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CANDELA TABULATION - (Cont.)

55.0	9227.103	9313.974	9415.804	9598.320	9699.792
55.5	9078.923	9180.564	9289.253	9462.038	9566.572
56.0	8940.642	9035.761	9160.198	9322.432	9430.121
56.5	8808.758	8883.710	9025.136	9180.322	9272.558
57.0	8680.955	8730.944	8885.362	9038.570	9107.884
57.5	8551.847	8577.736	8739.602	8894.167	8966.047
58.0	8418.447	8429.777	8590.612	8747.123	8827.304
58.5	8277.800	8294.147	8441.191	8590.075	8687.666
59.0	8120.247	8162.715	8289.298	8414.292	8547.797
59.5	7960.222	8029.599	8139.803	8259.643	8399.481
60.0	7797.084	7896.516	7997.430	8115.208	8182.229
60.5	7646.495	7756.331	7860.191	7971.762	7798.073
61.0	7508.067	7598.094	7722.047	7827.275	7362.255
61.5	7373.984	7437.722	7584.640	7680.032	6985.336
62.0	7237.912	7274.773	7447.769	7455.406	6764.686
62.5	7092.047	7119.019	7305.448	7077.951	6623.313
63.0	6928.551	6980.791	7155.239	6666.864	6485.558
63.5	6758.858	6843.436	6996.192	6324.702	6289.135
64.0	6593.774	6704.104	6833.474	6135.749	5992.313
64.5	6451.906	6556.745	6671.661	5999.824	5619.781
65.0	6313.268	6390.850	6510.101	5855.863	5262.166
65.5	6172.536	6219.306	6341.923	5622.706	5056.675
66.0	6007.146	6063.068	6190.587	5292.463	4932.502
66.5	5836.212	5922.999	6046.879	4943.242	4809.506
67.0	5671.654	5783.067	5897.921	4650.544	4690.844
67.5	5529.754	5633.983	5731.826	4510.780	4576.948
68.0	5391.316	5466.068	5505.559	4384.018	4462.726
68.5	5225.126	5293.241	5148.407	4263.295	4345.821
69.0	5050.374	5148.312	4761.684	4150.009	4230.989
69.5	4896.167	5008.096	4525.276	4038.984	4114.589
70.0	4755.772	4852.942	4382.556	3927.918	3995.991
70.5	4601.280	4679.252	4228.727	3817.935	3854.144
71.0	4424.403	4521.625	3987.123	3708.436	3737.144
71.5	4271.637	4380.873	3675.194	3591.542	3619.714
72.0	4133.787	4228.012	3380.129	3461.372	3458.100
72.5	3964.158	4054.585	3245.614	3333.874	3277.615
73.0	3799.073	3907.847	3123.628	3205.881	3014.771
73.5	3663.970	3765.095	3001.180	3025.975	2736.190
74.0	3493.699	3593.551	2891.765	2818.475	2480.552
74.5	3342.195	3446.929	2787.526	2572.063	2230.984
75.0	3200.495	3300.884	2671.926	2289.705	2002.855
75.5	3035.463	3135.263	2554.495	2072.695	1891.631
76.0	2898.266	2998.476	2450.392	1854.592	1804.707
76.5	2735.548	2828.626	2326.829	1719.982	1713.870
77.0	2607.587	2687.547	2204.559	1634.131	1627.893
77.5	2445.701	2526.681	2042.199	1543.442	1516.743
78.0	2307.399	2367.140	1825.757	1459.274	1358.822
78.5	2175.903	2070.970	1580.765	1343.895	1120.289
79.0	2022.190	1884.941	1391.759	1181.492	919.680
79.5	1895.197	1756.054	1225.496	954.510	816.598
80.0	1755.917	1551.100	1143.495	789.899	776.602
80.5	1632.943	1375.780	1063.073	741.908	708.571
81.0	1496.661	1277.453	986.132	716.892	519.470
81.5	1380.661	1195.483	875.360	585.618	336.502
82.0	1263.325	1110.243	688.595	370.912	325.846
82.5	1145.662	1010.380	560.949	334.335	330.969

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CANDELA TABULATION - (Cont.)

83.0	1038.415	910.980	542.813	334.020	342.372
83.5	938.531	788.836	464.053	340.931	321.249
84.0	843.549	645.443	314.379	325.541	296.685
84.5	749.535	542.372	300.988	298.526	317.514
85.0	653.964	474.846	297.948	309.824	273.037
85.5	568.145	399.452	277.224	265.368	255.838
86.0	481.547	325.699	257.437	248.495	236.155
86.5	395.065	279.602	230.275	226.341	214.832
87.0	311.360	225.941	206.406	202.408	191.594
87.5	246.654	202.356	180.475	176.362	171.018
88.0	208.047	169.513	153.155	155.333	148.569
88.5	174.153	136.524	126.867	126.457	121.902
89.0	113.875	104.418	95.571	93.351	91.437
89.5	72.365	62.360	59.120	58.437	56.785
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	6340.99	N.A.	12.80
0-30	13521.14	N.A.	27.40
0-40	22274.48	N.A.	45.10
0-60	39898.3	N.A.	80.80
0-80	48896.09	N.A.	99.00
0-90	49394.96	N.A.	100.00
10-90	47758.9	N.A.	96.70
20-40	15933.49	N.A.	32.30
20-50	25132.66	N.A.	50.90
40-70	23704.86	N.A.	48.00
60-80	8997.82	N.A.	18.20
70-80	2916.78	N.A.	5.90
80-90	498.83	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	49394.96	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	1636.04
10-20	4704.95
20-30	7180.14
30-40	8753.35
40-50	9199.17
50-60	8424.65
60-70	6081.04
70-80	2916.78
80-90	498.83
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

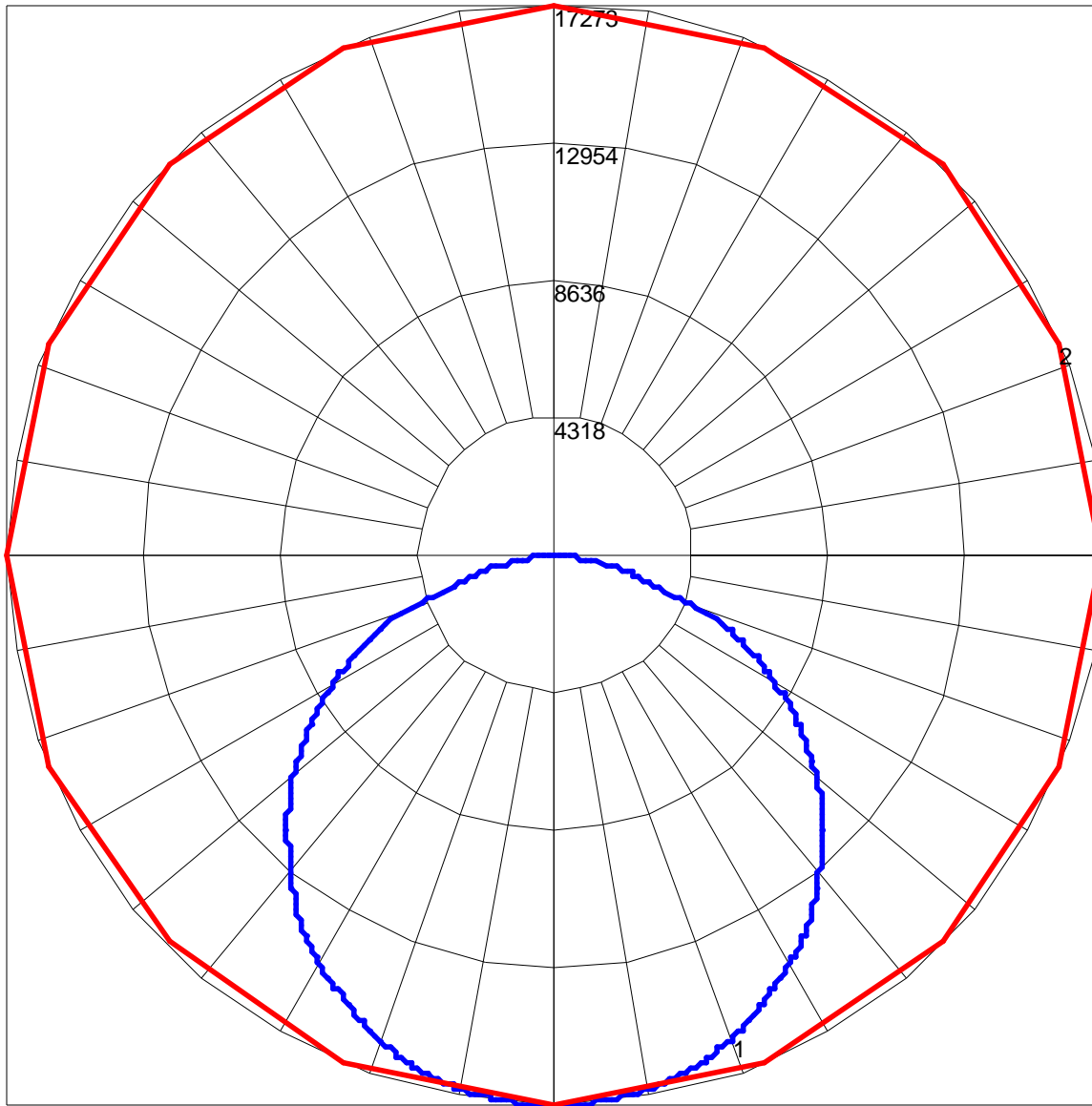
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	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 = 17272.609 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.)