



**IES INDOOR REPORT**

**PHOTOMETRIC FILENAME : HBPA48-LED355DMV50.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-LED355DMV50  
 [LUMINAIRE] Mobern Lighting Co - 4' suspended high bay luminaire. Product ID: HBPA48-LED355DMV50  
 [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  
 [ISSUEDATE] Wednesday, April 12, 2017 9:10:54 AM

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	50118
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	141
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	41811	42213	43089
55	40326	41151	42392
65	37447	38615	31212
75	30998	25879	19398
85	18809	8569	7853

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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	17516.03517516.03517516.03517516.03517516.03517516.035				
0.5	17515.99117521.68017525.56617502.76517509.545				
1.0	17514.83817519.44917523.15417501.86917505.700				
1.5	17511.47517517.21817520.10017498.10217503.675				
2.0	17506.42817512.91617515.92617494.06817498.615				
2.5	17501.44217506.98217509.98117487.66317493.596				
3.0	17494.44117500.32217502.79917479.88217487.460				
3.5	17486.24317492.88217494.42017472.89117478.003				
4.0	17476.91517483.38317485.13317462.69717469.005				
4.5	17467.27617472.76217474.80117452.56817457.926				
5.0	17455.17217460.72317462.76117439.48217445.651				
5.5	17441.68117448.54417449.62217424.76317431.210				
6.0	17427.25017434.61517435.53317411.05817416.928				
6.5	17411.93317419.31917419.65017394.90817401.473				
7.0	17394.96217402.48717402.01717377.20117385.302				
7.5	17376.58217384.41617383.85117359.89917366.463				
8.0	17356.73917365.10817363.16517339.50117345.617				
8.5	17336.44917343.16217342.73517318.91217324.099				
9.0	17314.06617322.05017319.97917296.07017301.183				
9.5	17291.10717299.24017296.34817273.79417276.783				
10.0	17265.42617274.74417271.29617249.26617252.361				
10.5	17237.55717248.16617245.11417223.67017224.108				
11.0	17207.91617221.35417216.81817194.40317198.918				
11.5	17173.50417190.53917187.91317165.78717169.170				
12.0	17135.34517158.53917158.35817135.01517139.476				
12.5	17091.25217121.50217126.68917104.73317108.704				
13.0	17043.79717079.99217093.73917072.66917073.619				
13.5	16997.07817035.17317060.69417037.80917039.581				
14.0	16946.16516988.05917026.83717002.14817004.422				
14.5	16897.11916939.34416992.13616964.56616966.029				
15.0	16844.76516888.94316956.43316927.74216929.983				
15.5	16792.68816837.62416919.31016888.93216890.501				
16.0	16738.46516783.93516877.57616847.82816849.205				
16.5	16684.84116729.69116830.87816806.14716806.008				
17.0	16628.62216674.02816781.09616764.31716763.282				
17.5	16569.81016617.89516724.97416720.40516718.046				
18.0	16515.11816562.60516667.40016676.40816671.562				
18.5	16462.16616505.42616605.36416629.73216624.417				
19.0	16410.90016446.81716541.40716580.21716575.969				
19.5	16359.95416389.25416479.25416530.07216525.066				
20.0	16310.52516332.86516417.47516477.26916473.224				
20.5	16258.88516276.77416354.05216424.19916421.286				
21.0	16207.26716221.31416289.73216369.79616367.522				
21.5	16153.16216166.52616225.17816314.91116313.513				
22.0	16098.04316110.24316157.66616258.44816256.409				
22.5	16043.42616053.72616092.38616201.72816198.024				
23.0	15986.69515995.96016024.62916143.32116140.087				
23.5	15928.01115935.98415953.76716082.67316078.702				
24.0	15868.50515877.54615882.91516021.54516017.457				
24.5	15809.44815816.90915812.26615959.07215955.090				
25.0	15746.47315755.26815742.11815895.13615889.938				
25.5	15679.02615691.92015674.00915831.69215825.383				
26.0	15606.30615627.78115606.27415764.70415759.110				
26.5	15527.83315560.70815536.78815695.09015690.105				

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**CANDELA TABULATION - (Cont.)**

27.0	15448.59115492.66315468.34815626.70315621.164
27.5	15368.31415418.84415399.02315555.40315551.656
28.0	15283.81115339.88015328.65115482.51215479.929
28.5	15198.27215257.48915257.25415407.57215407.241
29.0	15108.65515173.49815185.03615330.93515333.902
29.5	15018.59015086.47515110.57615252.80415259.517
30.0	14931.96314998.20415035.97815172.43115183.553
30.5	14842.45314906.96514959.39415089.28215105.015
31.0	14751.15014813.65514880.82515003.57315025.753
31.5	14664.01014720.76214802.52314919.30414945.305
32.0	14581.01114628.44514723.45214834.05314862.776
32.5	14499.15514532.98014642.01214744.69314780.023
33.0	14418.72914437.98414560.01614656.02614697.205
33.5	14337.07514346.43614475.76914565.70514613.107
34.0	14254.51414257.66214388.03114472.48114525.796
34.5	14169.42314169.93514298.02014380.63414438.486
35.0	14084.84414082.72014205.04114287.26114350.961
35.5	13997.25613995.41014105.60514191.43214260.085
36.0	13910.38313907.32014006.93714094.26914169.690
36.5	13820.41413818.04513906.17713997.91814079.337
37.0	13728.27913725.81313802.38613898.12913985.238
37.5	13625.70513633.51813698.26413799.44013891.448
38.0	13519.51213541.83113592.49913699.47113796.708
38.5	13410.49113446.42913484.13913596.65113698.627
39.0	13298.57713350.07813375.75913494.95213602.094
39.5	13185.83113249.17913267.16413391.53413502.413
40.0	13066.04013140.69213155.47513286.17413401.941
40.5	12950.19813027.92413045.70613179.99213301.587
41.0	12835.39212913.69412936.46113073.51113199.472
41.5	12716.75412794.85312826.12712964.90613094.592
42.0	12604.27412675.58512721.67412858.41512990.449
42.5	12497.97512553.93712615.93012750.80312883.584
43.0	12392.17712433.73012510.03612642.03812775.064
43.5	12288.36512311.45212405.95712534.13712665.989
44.0	12183.47412191.17012299.16612425.02012556.285
44.5	12074.66612075.42412190.90312314.65412443.774
45.0	11966.93711963.51112081.87112204.24512332.575
45.5	11856.62411853.48611972.96712091.80812218.078
46.0	11743.87811741.29511860.61611977.37612102.824
46.5	11625.72011630.75811749.70611864.11711989.704
47.0	11494.66811517.91611636.06311748.93711872.133
47.5	11362.29311404.14511517.98011632.67911751.798
48.0	11226.59811288.53811396.10711515.59911633.725
48.5	11090.02811171.55411268.40711397.18511514.404
49.0	10952.33811042.46611138.07111277.56511390.685
49.5	10817.83810908.47911007.99011156.67511268.984
50.0	10690.01010771.69610874.49411035.57111145.190
50.5	10567.17710630.30110736.01410912.25811020.671
51.0	10448.30410489.00310601.51410789.42510893.696
51.5	10328.39610350.36210465.49910666.28210767.256
52.0	10206.52310209.75810327.46710538.42210637.186
52.5	10083.33810081.57710196.72510411.62910508.739
53.0	9957.751 9955.382 10067.26410283.21410377.633
53.5	9814.446 9830.190 9939.467 10149.95310245.109
54.0	9669.465 9705.489 9811.618 10016.63810112.755
54.5	9517.910 9578.952 9683.950 9878.222 9978.811

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**CANDELA TABULATION - (Cont.)**

55.0	9362.234	9450.377	9553.698	9738.887	9841.846
55.5	9211.884	9315.013	9425.294	9600.609	9706.674
56.0	9071.578	9168.090	9294.349	9458.959	9568.225
56.5	8937.762	9013.812	9157.309	9314.768	9408.355
57.0	8808.087	8858.809	9015.488	9170.940	9241.269
57.5	8677.089	8703.357	8867.593	9024.422	9097.355
58.0	8541.736	8553.231	8716.421	8875.225	8956.580
58.5	8399.028	8415.615	8564.812	8715.877	8814.897
59.0	8239.168	8282.258	8410.695	8537.520	8672.979
59.5	8076.800	8147.193	8259.011	8380.605	8522.491
60.0	7911.272	8012.160	8114.553	8234.056	8302.058
60.5	7758.478	7869.922	7975.304	8088.509	7912.275
61.0	7618.023	7709.368	7835.137	7941.906	7470.075
61.5	7481.976	7546.648	7695.717	7792.506	7087.636
62.0	7343.912	7381.312	7556.841	7564.590	6863.755
62.5	7195.910	7223.277	7412.437	7181.607	6720.311
63.0	7030.019	7083.025	7260.027	6764.500	6580.539
63.5	6857.842	6943.658	7098.651	6417.328	6381.240
64.0	6690.340	6802.285	6933.551	6225.607	6080.071
64.5	6546.394	6652.768	6769.368	6087.692	5702.083
65.0	6405.725	6484.444	6605.441	5941.622	5339.231
65.5	6262.933	6310.388	6434.800	5705.050	5130.730
66.0	6095.121	6151.862	6281.249	5369.971	5004.738
66.5	5921.684	6009.742	6135.435	5015.636	4879.941
67.0	5754.715	5867.760	5984.296	4718.651	4759.542
67.5	5610.737	5716.492	5815.769	4576.840	4643.978
68.0	5470.272	5546.119	5586.188	4448.222	4528.083
68.5	5301.648	5370.761	5223.805	4325.731	4409.466
69.0	5124.337	5223.709	4831.419	4210.786	4292.952
69.5	4967.871	5081.439	4591.548	4098.135	4174.847
70.0	4825.420	4924.013	4446.738	3985.442	4054.512
70.5	4668.666	4747.779	4290.657	3873.849	3910.588
71.0	4489.198	4587.845	4045.514	3762.746	3791.875
71.5	4334.195	4445.031	3729.017	3644.140	3672.724
72.0	4194.327	4289.931	3429.631	3512.064	3508.744
72.5	4022.213	4113.964	3293.146	3382.699	3325.616
73.0	3854.711	3965.077	3169.374	3252.832	3058.922
73.5	3717.629	3820.235	3045.132	3070.290	2776.262
74.0	3544.864	3646.179	2934.115	2859.751	2516.880
74.5	3391.141	3497.409	2828.349	2609.730	2263.657
75.0	3247.367	3349.226	2711.056	2323.238	2032.187
75.5	3079.918	3181.179	2591.905	2103.050	1919.334
76.0	2940.711	3042.389	2486.278	1881.752	1831.137
76.5	2775.610	2870.051	2360.905	1745.171	1738.970
77.0	2645.776	2726.906	2236.845	1658.063	1651.734
77.5	2481.518	2563.684	2072.107	1566.045	1538.955
78.0	2341.191	2401.807	1852.495	1480.645	1378.722
78.5	2207.770	2101.299	1603.916	1363.576	1136.696
79.0	2051.805	1912.546	1412.141	1198.795	933.148
79.5	1922.953	1781.772	1243.443	968.489	828.557
80.0	1781.633	1573.816	1160.242	801.467	787.975
80.5	1656.857	1395.928	1078.641	752.773	718.948
81.0	1518.579	1296.161	1000.574	727.391	527.078
81.5	1400.881	1212.991	888.180	594.194	341.430
82.0	1281.826	1126.502	698.679	376.344	330.618
82.5	1162.441	1025.177	569.164	339.232	335.816

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**CANDELA TABULATION - (Cont.)**

<b>83.0</b>	1053.622	924.321	550.763	338.911	347.386
<b>83.5</b>	952.276	800.389	470.849	345.924	325.953
<b>84.0</b>	855.903	654.896	318.984	330.308	301.030
<b>84.5</b>	760.512	550.315	305.396	302.898	322.164
<b>85.0</b>	663.541	481.800	302.311	314.362	277.036
<b>85.5</b>	576.465	405.302	281.284	269.255	259.584
<b>86.0</b>	488.599	330.468	261.207	252.134	239.614
<b>86.5</b>	400.851	283.696	233.647	229.655	217.978
<b>87.0</b>	315.920	229.250	209.429	205.373	194.400
<b>87.5</b>	250.266	205.319	183.118	178.945	173.522
<b>88.0</b>	211.094	171.996	155.398	157.608	150.745
<b>88.5</b>	176.703	138.523	128.725	128.309	123.687
<b>89.0</b>	115.543	105.947	96.971	94.718	92.776
<b>89.5</b>	73.424	63.274	59.986	59.292	57.617
<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	6433.86	N.A.	12.80
0-30	13719.15	N.A.	27.40
0-40	22600.69	N.A.	45.10
0-60	40482.61	N.A.	80.80
0-80	49612.24	N.A.	99.00
0-90	50118.35	N.A.	100.00
10-90	48458.39	N.A.	96.70
20-40	16166.84	N.A.	32.30
20-50	25500.73	N.A.	50.90
40-70	24052.01	N.A.	48.00
60-80	9129.59	N.A.	18.20
70-80	2959.5	N.A.	5.90
80-90	506.14	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	50118.35	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	1660.00
10-20	4773.85
20-30	7285.3
30-40	8881.54
40-50	9333.89
50-60	8548.03
60-70	6170.09
70-80	2959.5
80-90	506.14
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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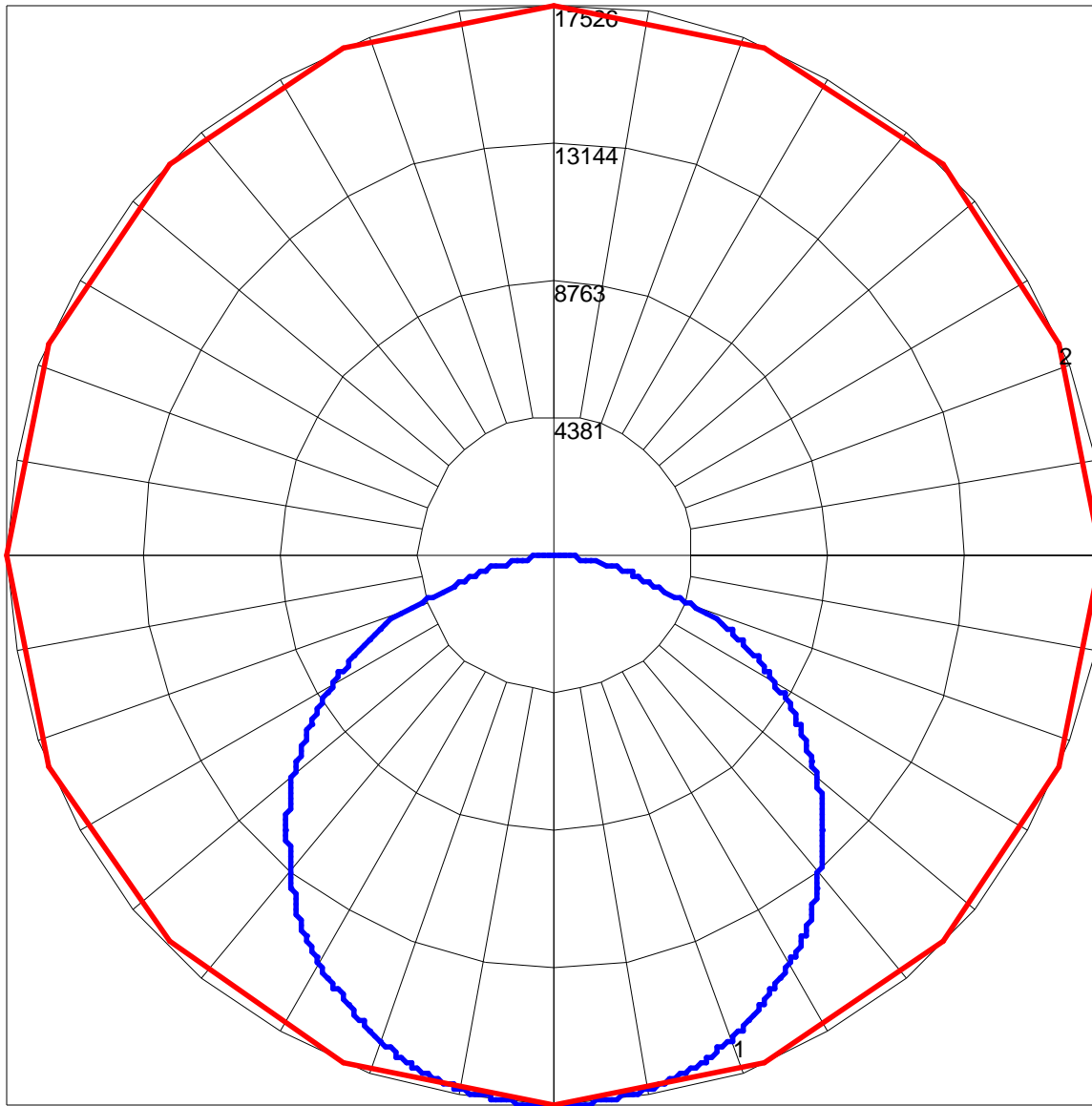
**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	120	120	120	120	117	117	117	117	112	112	112	107	107	107	103	103	103	100
1	110	105	101	97	107	103	99	96	99	95	93	95	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	81	72	66	89	79	71	65	76	69	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	71	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	40	38
7	65	52	43	37	64	51	43	37	49	42	36	48	41	36	47	41	36	34
8	61	47	39	33	59	47	38	33	45	38	32	44	37	32	43	37	32	30
9	57	43	35	29	55	43	35	29	42	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	27	38	31	26	37	31	26	37	31	26	24



POLAR GRAPH



Maximum Candela = 17525.566 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.)