



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HBPA48-LED355DMV35.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-LED355DMV35
 [LUMINAIRE] Mobern Lighting Co - 4' suspended high bay luminaire. Product ID: HBPA48-LED355DMV35
 [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	48419
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	137
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	40394	40782	41628
55	38959	39755	40954
65	36177	37305	30154
75	29947	25001	18741
85	18171	8279	7587

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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	16922.122	16922.122	16922.122	16922.122	16922.122
0.5	16922.080	16927.576	16931.330	16909.302	16915.852
1.0	16920.966	16925.421	16929.000	16908.436	16912.138
1.5	16917.717	16923.266	16926.050	16904.797	16910.181
2.0	16912.841	16919.109	16922.017	16900.900	16905.293
2.5	16908.024	16913.377	16916.273	16894.712	16900.445
3.0	16901.260	16906.942	16909.335	16887.195	16894.516
3.5	16893.341	16899.755	16901.241	16880.441	16885.380
4.0	16884.328	16890.577	16892.268	16870.593	16876.687
4.5	16875.017	16880.317	16882.286	16860.807	16865.984
5.0	16863.323	16868.685	16870.655	16848.165	16854.125
5.5	16850.289	16856.919	16857.961	16833.945	16840.173
6.0	16836.347	16843.463	16844.349	16820.704	16826.376
6.5	16821.550	16828.686	16829.005	16805.103	16811.444
7.0	16805.154	16812.424	16811.970	16787.995	16795.822
7.5	16787.397	16794.966	16794.420	16771.280	16777.622
8.0	16768.228	16776.312	16774.435	16751.574	16757.483
8.5	16748.625	16755.111	16754.699	16731.683	16736.694
9.0	16727.001	16734.714	16732.714	16709.616	16714.555
9.5	16704.821	16712.678	16709.884	16688.095	16690.982
10.0	16680.010	16689.013	16685.682	16664.398	16667.389
10.5	16653.086	16663.336	16660.387	16639.671	16640.093
11.0	16624.451	16637.433	16633.051	16611.396	16615.758
11.5	16591.205	16607.663	16605.126	16583.750	16587.019
12.0	16554.341	16576.748	16576.573	16554.021	16558.331
12.5	16511.743	16540.966	16545.978	16524.766	16528.602
13.0	16465.896	16500.864	16514.145	16493.790	16494.708
13.5	16420.762	16457.565	16482.220	16460.112	16461.823
14.0	16371.574	16412.048	16449.511	16425.660	16427.856
14.5	16324.192	16364.985	16415.987	16389.352	16390.765
15.0	16273.612	16316.293	16381.494	16353.776	16355.942
15.5	16223.301	16266.714	16345.630	16316.283	16317.799
16.0	16170.917	16214.846	16305.311	16276.572	16277.902
16.5	16119.111	16162.441	16260.197	16236.304	16236.170
17.0	16064.799	16108.665	16212.103	16195.893	16194.892
17.5	16007.981	16054.435	16157.883	16153.470	16151.191
18.0	15955.143	16001.020	16102.261	16110.965	16106.283
18.5	15903.986	15945.780	16042.329	16065.871	16060.736
19.0	15854.459	15889.158	15980.541	16018.035	16013.931
19.5	15805.241	15833.547	15920.496	15969.590	15964.754
20.0	15757.487	15779.069	15860.811	15918.578	15914.669
20.5	15707.598	15724.881	15799.538	15867.307	15864.492
21.0	15657.731	15671.301	15737.399	15814.748	15812.552
21.5	15605.460	15618.370	15675.034	15761.725	15760.374
22.0	15552.210	15563.996	15609.812	15707.176	15705.206
22.5	15499.445	15509.395	15546.745	15652.379	15648.801
23.0	15444.637	15453.588	15481.286	15595.953	15592.828
23.5	15387.943	15395.646	15412.826	15537.361	15533.525
24.0	15330.455	15339.189	15344.376	15478.305	15474.356
24.5	15273.400	15280.608	15276.122	15417.951	15414.104
25.0	15212.560	15221.057	15208.353	15356.183	15351.161
25.5	15147.400	15159.857	15142.554	15294.890	15288.795
26.0	15077.146	15097.893	15077.115	15230.173	15224.769
26.5	15001.334	15033.094	15009.985	15162.919	15158.104

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CANDELA TABULATION - (Cont.)

27.0	14924.77914967.35614943.86615096.85215091.500
27.5	14847.22414896.04014876.89115027.96915024.350
28.0	14765.58514819.75314808.90514957.55014955.054
28.5	14682.94714740.15714739.93014885.15114884.831
29.0	14596.36914659.01314670.16014811.11214813.979
29.5	14509.35814574.94114598.22514735.63014742.116
30.0	14425.66814489.66314526.15614657.98214668.727
30.5	14339.19314401.51714452.16914577.65314592.853
31.0	14250.98614311.37214376.26414494.84914516.277
31.5	14166.80014221.62814300.61714413.43814438.557
32.0	14086.61614132.44214224.22714331.07814358.827
32.5	14007.53514040.21314145.54814244.74714278.879
33.0	13929.83613948.43814066.33314159.08714198.870
33.5	13850.95013859.99413984.94214071.82914117.624
34.0	13771.18913774.23113900.17913981.76614033.273
34.5	13688.98313689.47813813.22013893.03313948.923
35.0	13607.27213605.22013723.39413802.82513864.366
35.5	13522.65413520.87013627.32913710.24613776.571
36.0	13438.72613435.76713532.00713616.37813689.241
36.5	13351.80813349.51913434.66313523.29313601.952
37.0	13262.79713260.41513334.39213426.88813511.043
37.5	13163.70113171.24913233.80013331.54613420.433
38.0	13061.10913082.67013131.62113234.96513328.906
38.5	12955.78412990.50413026.93513135.63213234.151
39.0	12847.66512897.41912922.22913037.38113140.891
39.5	12738.74112799.94212817.31712937.47013044.589
40.0	12623.01212695.13312709.41512835.68212947.524
40.5	12511.09812586.18912603.36812733.10112850.573
41.0	12400.18512475.83212497.82712630.23012751.920
41.5	12285.56912361.02112391.23412525.30812650.596
42.0	12176.90412245.79712290.32312422.42712549.984
42.5	12074.20812128.27312188.16412318.46412446.742
43.0	11971.99812012.14212085.86112213.38712341.902
43.5	11871.70511894.01011985.31012109.14512236.526
44.0	11770.37211777.80611882.14112003.72712130.542
44.5	11665.25311665.98511777.54911897.10312021.845
45.0	11561.17611557.86611672.21411790.43811914.417
45.5	11454.60411451.57211567.00211681.81411803.802
46.0	11345.68011343.18511458.46111571.26111692.456
46.5	11231.52911236.39611351.31111461.84311583.171
47.0	11104.92111127.38011241.52111350.56811469.587
47.5	10977.03411017.46711127.44211238.25211353.332
48.0	10845.94010905.78011009.70211125.14211239.263
48.5	10714.00110792.76210886.33111010.74311123.987
49.0	10580.97910668.05210760.41410895.17911004.463
49.5	10451.04010538.60810634.74410778.38810886.888
50.0	10327.54610406.46210505.77510661.39010767.292
50.5	10208.87810269.86210371.99010542.25810646.995
51.0	10094.03510133.35410242.05110423.59010524.326
51.5	9978.193 9999.414 10110.64810304.62310402.172
52.0	9860.453 9863.577 9977.296 10181.09810276.513
52.5	9741.444 9739.743 9850.987 10058.60410152.421
53.0	9620.116 9617.827 9725.915 9934.543 10025.761
53.5	9481.670 9496.880 9602.452 9805.800 9897.730
54.0	9341.605 9376.407 9478.937 9677.006 9769.864
54.5	9195.188 9254.161 9355.598 9543.283 9640.461

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CANDELA TABULATION - (Cont.)

55.0	9044.790	9129.945	9229.763	9408.673	9508.140
55.5	8899.538	8999.171	9105.712	9275.083	9377.552
56.0	8763.990	8857.229	8979.207	9138.236	9243.797
56.5	8634.711	8708.183	8846.814	8998.934	9089.347
57.0	8509.433	8558.435	8709.801	8859.982	8927.927
57.5	8382.876	8408.254	8566.921	8718.432	8788.893
58.0	8252.113	8263.218	8420.875	8574.294	8652.891
58.5	8114.244	8130.269	8274.407	8420.350	8516.012
59.0	7959.804	8001.433	8125.515	8248.040	8378.906
59.5	7802.941	7870.948	7978.974	8096.446	8233.521
60.0	7643.026	7740.493	7839.414	7954.865	8020.561
60.5	7495.413	7603.078	7704.887	7814.253	7643.996
61.0	7359.720	7447.968	7569.472	7672.621	7216.788
61.5	7228.286	7290.765	7434.780	7528.287	6847.317
62.0	7094.903	7131.036	7300.613	7308.099	6631.027
62.5	6951.920	6978.359	7161.105	6938.102	6492.447
63.0	6791.654	6842.862	7013.863	6535.138	6357.414
63.5	6625.314	6708.221	6857.959	6199.737	6164.872
64.0	6463.492	6571.642	6698.456	6014.516	5873.915
64.5	6324.427	6427.194	6539.840	5881.278	5508.744
65.0	6188.528	6264.577	6381.472	5740.161	5158.194
65.5	6050.577	6096.423	6216.617	5511.610	4956.764
66.0	5888.455	5943.272	6068.272	5187.892	4835.043
66.5	5720.898	5805.971	5927.402	4845.572	4714.478
67.0	5559.591	5668.803	5781.387	4558.657	4598.161
67.5	5420.495	5522.664	5618.574	4421.654	4486.515
68.0	5284.792	5358.068	5396.778	4297.397	4374.550
68.5	5121.886	5188.655	5046.683	4179.059	4259.955
69.0	4950.587	5046.590	4667.601	4068.011	4147.391
69.5	4799.427	4909.144	4435.864	3959.181	4033.291
70.0	4661.805	4757.055	4295.964	3850.309	3917.036
70.5	4510.366	4586.797	4145.174	3742.499	3777.992
71.0	4336.984	4432.286	3908.344	3635.164	3663.304
71.5	4187.236	4294.314	3602.578	3520.579	3548.194
72.0	4052.110	4144.473	3313.343	3392.981	3389.774
72.5	3885.833	3974.473	3181.486	3268.002	3212.855
73.0	3724.010	3830.634	3061.911	3142.538	2955.204
73.5	3591.576	3690.703	2941.881	2966.186	2682.127
74.0	3424.669	3522.549	2834.628	2762.786	2431.541
74.5	3276.159	3378.823	2732.449	2521.243	2186.904
75.0	3137.259	3235.664	2619.133	2244.464	1963.282
75.5	2975.487	3073.315	2504.022	2031.742	1854.256
76.0	2841.001	2939.231	2401.977	1817.948	1769.049
76.5	2681.498	2772.737	2280.854	1685.998	1680.007
77.0	2556.066	2634.446	2161.000	1601.844	1595.729
77.5	2397.378	2476.758	2001.848	1512.946	1486.774
78.0	2261.809	2320.369	1789.683	1430.441	1331.974
78.5	2132.911	2030.051	1549.532	1317.341	1098.154
79.0	1982.235	1847.697	1364.260	1158.148	901.508
79.5	1857.751	1721.357	1201.282	935.651	800.463
80.0	1721.223	1520.453	1120.902	774.292	761.258
80.5	1600.678	1348.596	1042.068	727.249	694.571
81.0	1467.089	1252.212	966.648	702.728	509.206
81.5	1353.381	1171.863	858.065	574.047	329.854
82.0	1238.363	1088.306	674.989	363.583	319.408
82.5	1123.026	990.416	549.866	327.729	324.430

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CANDELA TABULATION - (Cont.)

83.0	1017.897	892.980	532.088	327.420	335.608
83.5	919.987	773.250	454.884	334.195	314.901
84.0	826.882	632.690	308.168	319.109	290.823
84.5	734.725	531.655	295.041	292.628	311.241
85.0	641.043	465.464	292.061	303.703	267.642
85.5	556.919	391.559	271.747	260.125	250.783
86.0	472.032	319.263	252.350	243.585	231.489
86.5	387.259	274.077	225.725	221.868	210.587
87.0	305.208	221.477	202.328	198.409	187.809
87.5	241.781	198.358	176.909	172.877	167.639
88.0	203.936	166.164	150.129	152.264	145.633
88.5	170.712	133.826	124.360	123.958	119.493
89.0	111.625	102.355	93.683	91.507	89.630
89.5	70.935	61.128	57.952	57.282	55.663
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	6215.71	N.A.	12.80
0-30	13253.98	N.A.	27.40
0-40	21834.38	N.A.	45.10
0-60	39109.98	N.A.	80.80
0-80	47930.04	N.A.	99.00
0-90	48418.99	N.A.	100.00
10-90	46815.32	N.A.	96.70
20-40	15618.67	N.A.	32.30
20-50	24636.07	N.A.	50.90
40-70	23236.48	N.A.	48.00
60-80	8820.04	N.A.	18.20
70-80	2859.15	N.A.	5.90
80-90	488.98	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	48418.99	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	1603.72
10-20	4611.99
20-30	7038.28
30-40	8580.39
40-50	9017.41
50-60	8258.19
60-70	5960.89
70-80	2859.15
80-90	488.98
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

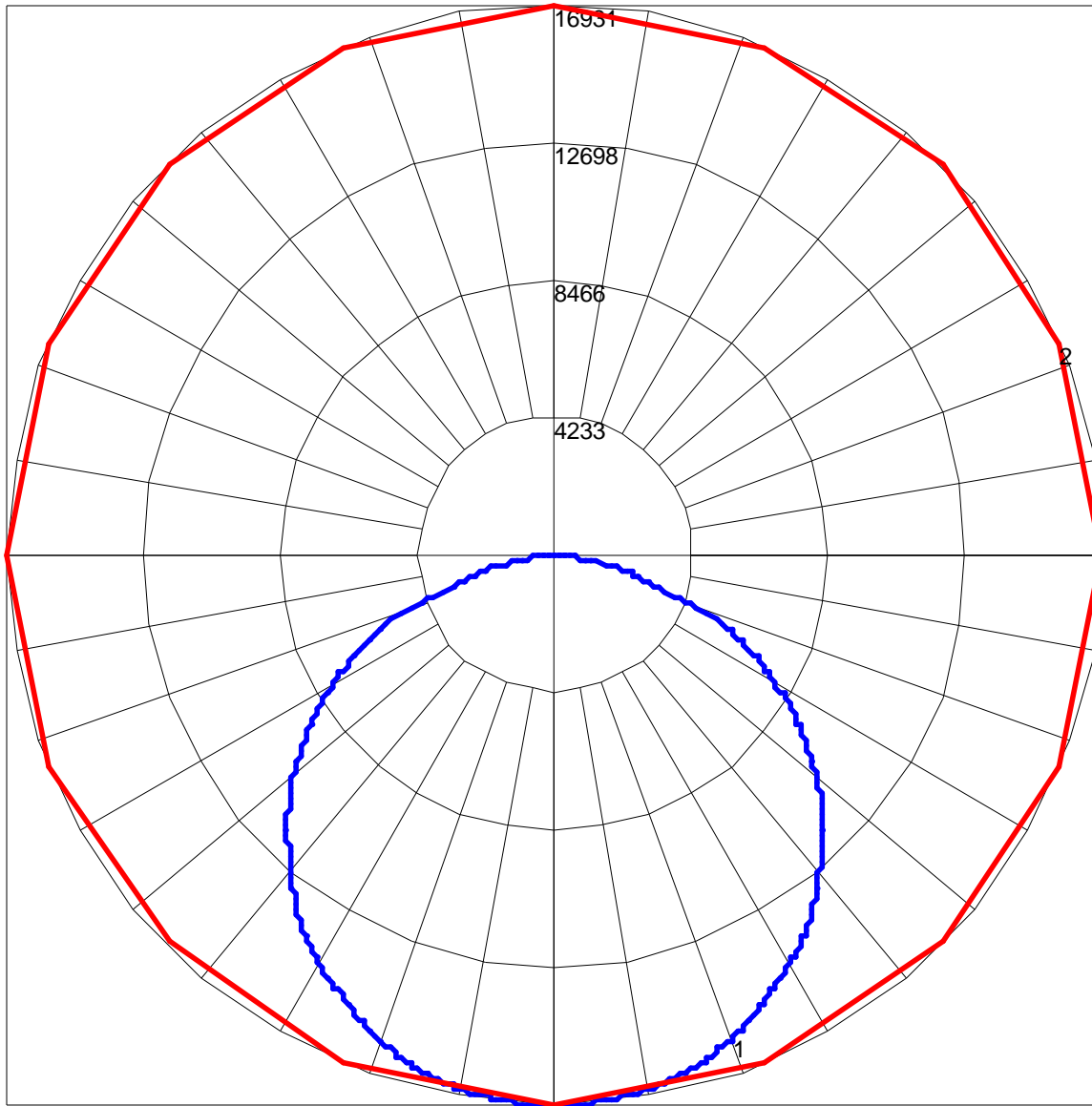
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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 = 16931.33 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.)