

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P381698

Luminaire Tested: **BMK-50-MFL-UNV-L850-CD-U**

Issue Date: 2/4/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P381698
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-5)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-50-MFL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH MEDIUM FROSTED LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

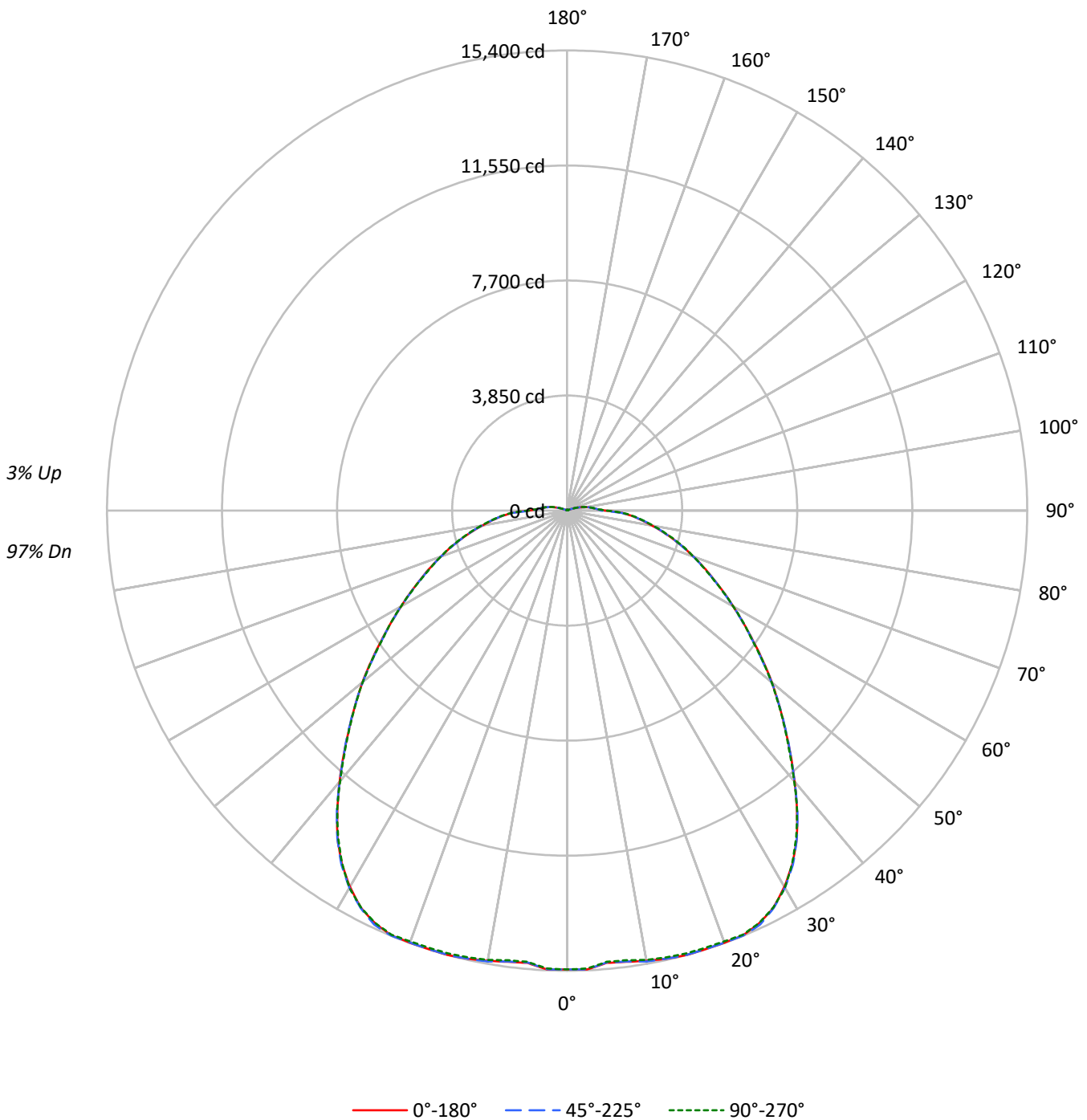
Lumens per Lamp: N/A
Luminaire Lumens: 49155.3 lumens
Efficiency: N/A
Efficacy: 147.8 lumens/watt
Spacing Criteria (0/90/45): 1.36 / 1.36 / 1.38
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 332.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10	0		
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	118	118	118	118	115	115	115	115	109	109	109		104	104	104		99	99	99	97
1	107	101	97	92	104	99	95	91	94	90	87		89	87	84		85	83	81	78
2	97	88	81	75	94	86	79	74	82	76	71		78	73	69		75	71	67	65
3	88	77	69	62	85	76	68	61	72	65	60		69	63	58		66	61	57	55
4	81	69	60	53	78	67	59	52	64	57	51		61	55	50		59	53	49	47
5	74	61	52	45	72	60	51	45	57	50	44		55	49	43		53	47	43	40
6	69	55	46	40	67	54	46	39	52	44	39		50	43	38		48	42	38	35
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44	38	33	31
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		40	34	30	28
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		37	31	27	25
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	118430	118430	118430
5°	116420	116325	116166
10°	117358	117532	117112
15°	119158	119143	118743
20°	121041	121017	120684
25°	122791	123232	122700
30°	121129	121404	121430
35°	116443	116452	116111
40°	108421	108392	108147
45°	100485	100616	100384
50°	93924	93848	93740
55°	87245	87018	86865
60°	82071	82005	82071
65°	78382	78218	77903
70°	76354	76179	76407
75°	75479	75543	76244
80°	76274	76957	77667
85°	82553	82939	84368



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1455.3	3.0
10°-20°	4355.5	8.9
20°-30°	6998.7	14.2
30°-40°	8332.7	17.0
40°-50°	7981.9	16.2
50°-60°	6809.9	13.9
60°-70°	5356.2	10.9
70°-80°	3887.3	7.9
80°-90°	2375.5	4.8
90°-100°	1002.3	2.0
100°-110°	450.0	0.9
110°-120°	68.1	0.1
120°-130°	20.6	0.0
130°-140°	22.9	0.0
140°-150°	19.5	0.0
150°-160°	10.7	0.0
160°-170°	6.2	0.0
170°-180°	2.1	0.0
0°-30°	12809.4	26.1
0°-40°	21142.1	43.0
0°-60°	35933.9	73.1
0°-90°	47553.0	96.7
90°-120°	1520.3	3.1
90°-150°	1583.3	3.2
90°-180°	1602.0	3.3
0°-180°	49155.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	15355	15355	15355	15355	15355	
5°	15194	15163	15181	15199	15161	###
15°	15400	15348	15398	15421	15346	4359
25°	15232	15228	15287	15273	15220	6995
35°	13401	13381	13402	13416	13362	8330
45°	10312	10345	10326	10330	10302	7981
55°	7594	7597	7575	7567	7561	6823
65°	5394	5382	5383	5372	5362	5369
75°	3661	3680	3664	3659	3698	3878
85°	2206	2239	2216	2215	2254	1934
90°	1271	1273	1151	1251	1300	742
95°	894	914	903	897	906	684
105°	414	424	421	422	427	444
115°	44	46	46	45	44	66
125°	23	24	23	23	24	20
135°	30	30	30	30	30	23
145°	32	32	32	32	31	20
155°	22	23	22	22	22	11
165°	23	22	22	22	22	6
175°	22	22	22	22	23	2
180°	22	22	22	22	22	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	15354.7	15354.7	15354.7	15354.7	15354.7
2.5°	15371.2	15332.0	15365.0	15376.4	15335.1
5°	15193.7	15162.7	15181.3	15198.8	15160.6
7.5°	15230.8	15182.3	15219.5	15228.8	15174.1
10°	15300.0	15297.9	15322.7	15312.4	15268.0
12.5°	15356.8	15333.0	15359.9	15364.0	15315.5
15°	15400.1	15347.5	15398.1	15420.8	15346.4
17.5°	15386.7	15332.0	15389.8	15420.8	15343.3
20°	15387.7	15322.7	15384.6	15407.3	15342.3
22.5°	15382.6	15343.3	15396.0	15421.8	15363.0
25°	15231.9	15227.7	15286.6	15273.2	15220.5
27.5°	14970.7	14949.0	14983.1	14996.5	14960.4
30°	14538.2	14523.7	14571.2	14597.0	14574.3
32.5°	14030.3	14028.3	14058.2	14035.5	14010.7
35°	13400.7	13381.0	13401.7	13416.1	13362.5
37.5°	12632.7	12634.7	12661.6	12621.3	12642.0
40°	11847.1	11859.5	11844.0	11832.7	11817.2
42.5°	11063.6	11075.0	11064.7	11061.6	11025.5
45°	10312.2	10345.2	10325.6	10329.7	10301.8
47.5°	9612.3	9622.6	9620.6	9605.1	9599.9
50°	8941.3	8934.1	8934.1	8895.9	8923.8
52.5°	8257.0	8259.0	8217.7	8205.3	8237.3
55°	7594.3	7597.4	7574.6	7567.4	7561.2
57.5°	6983.2	6978.0	6983.2	6961.5	6997.6
60°	6420.6	6417.5	6415.4	6396.8	6420.6
62.5°	5896.2	5885.9	5880.7	5870.4	5881.8
65°	5394.5	5382.1	5383.2	5371.8	5361.5
67.5°	4936.2	4926.9	4921.8	4919.7	4909.4
70°	4496.5	4490.3	4486.2	4475.8	4499.6
72.5°	4075.3	4078.4	4064.0	4054.7	4104.2
75°	3661.4	3680.0	3664.5	3659.3	3698.5
77.5°	3262.9	3293.9	3275.3	3273.3	3306.3
80°	2880.0	2916.1	2905.8	2896.5	2932.6
82.5°	2532.1	2572.4	2557.9	2545.5	2577.5
85°	2205.9	2238.9	2216.2	2215.2	2254.4
87.5°	1850.8	1880.8	1832.2	1858.0	1891.1
90°	1270.7	1272.8	1151.0	1251.1	1299.6
92.5°	1025.0	1044.6	1021.9	1027.1	1037.4
95°	893.9	913.5	903.2	897.0	906.3
97.5°	776.3	792.8	782.4	781.4	789.7
100°	658.6	669.9	660.6	663.7	669.9
102.5°	541.9	552.3	547.1	549.2	557.4
105°	413.9	424.3	421.2	422.2	427.4
107.5°	294.2	299.4	294.2	296.3	303.5
110°	183.7	188.9	180.6	185.8	195.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	95.0	101.2	103.2	101.2	98.1
115°	44.4	46.5	46.5	45.4	44.4
117.5°	21.7	21.7	20.6	21.7	21.7
120°	18.6	19.6	18.6	18.6	19.6
122.5°	20.6	21.7	20.6	20.6	21.7
125°	22.7	23.7	22.7	22.7	23.7
127.5°	24.8	25.8	24.8	24.8	25.8
130°	26.8	26.8	26.8	26.8	26.8
132.5°	27.9	28.9	27.9	27.9	28.9
135°	29.9	29.9	29.9	29.9	29.9
137.5°	31.0	31.0	31.0	31.0	32.0
140°	32.0	32.0	32.0	32.0	32.0
142.5°	33.0	32.0	32.0	33.0	32.0
145°	32.0	32.0	32.0	32.0	31.0
147.5°	29.9	29.9	29.9	29.9	29.9
150°	26.8	26.8	26.8	26.8	26.8
152.5°	23.7	23.7	23.7	23.7	23.7
155°	21.7	22.7	21.7	21.7	21.7
157.5°	22.7	22.7	21.7	21.7	21.7
160°	22.7	22.7	21.7	21.7	21.7
162.5°	22.7	22.7	21.7	21.7	21.7
165°	22.7	21.7	21.7	21.7	21.7
167.5°	22.7	21.7	21.7	21.7	21.7
170°	22.7	22.7	21.7	21.7	21.7
172.5°	21.7	22.7	21.7	21.7	21.7
175°	21.7	21.7	21.7	21.7	22.7
177.5°	20.6	20.6	21.7	21.7	22.7
180°	21.7	21.7	21.7	21.7	21.7

(END OF REPORT)