

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: P381723

Luminaire Tested: **BMK-70-MCL-UNV-L735-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: P381723
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-6)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-70-MCL-UNV-L735-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH MEDIUM CLEAR LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 73418.1 lumens
Efficiency: N/A
Efficacy: 146.6 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.41 / 1.39
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

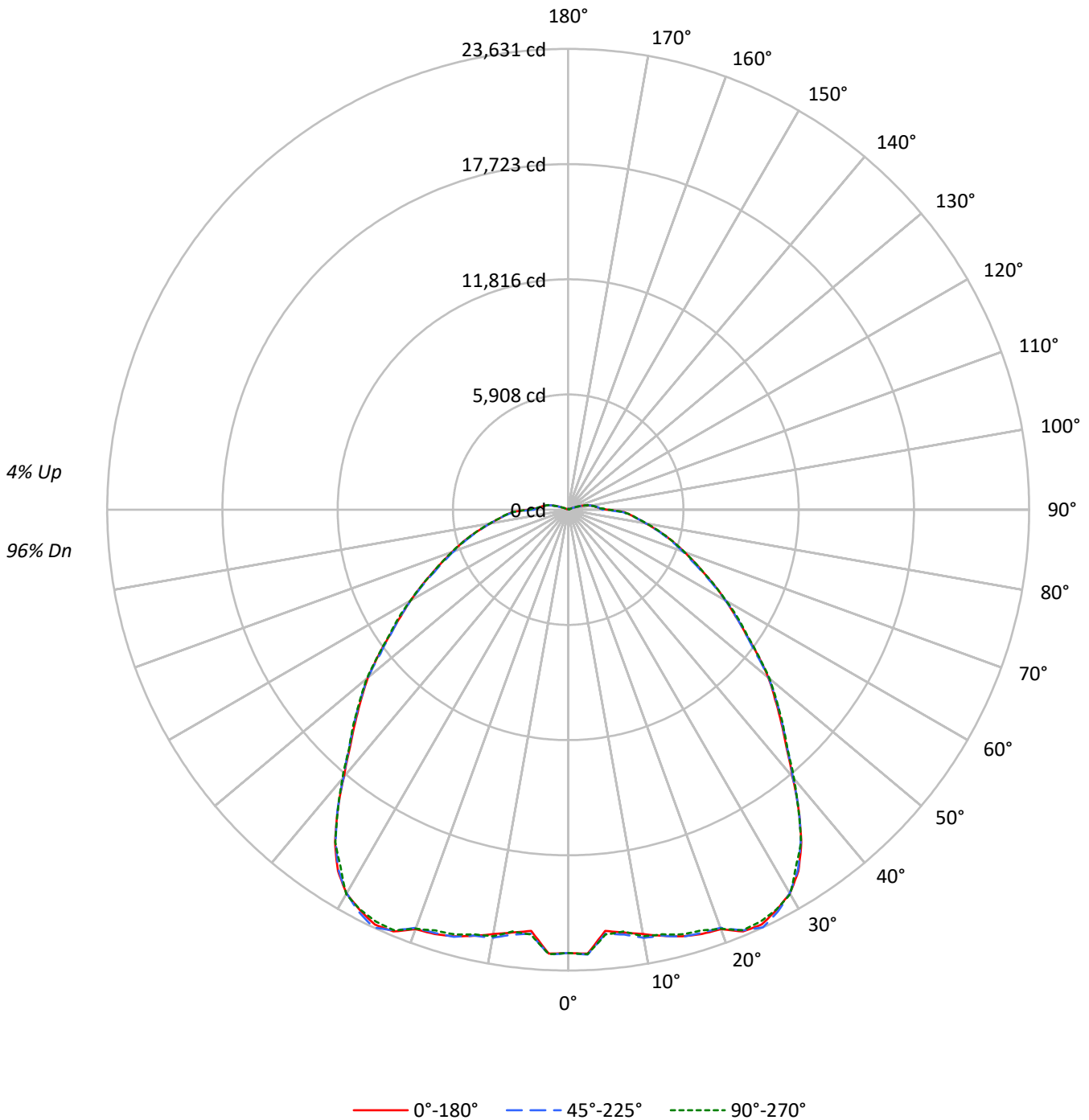
Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	96
1	107	102	97	93	104	99	95	91	94	90	87	89	87	84	85	83	81	78
2	97	88	81	75	94	86	80	74	82	77	72	78	74	70	75	71	68	65
3	89	78	69	63	86	76	68	62	72	66	60	69	63	59	66	61	57	55
4	81	69	60	53	79	67	59	53	64	57	52	62	55	50	59	54	49	47
5	75	62	53	46	72	60	52	45	58	50	45	55	49	44	53	48	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	44	38	48	42	38	36
7	64	50	42	35	62	49	41	35	48	40	35	46	39	34	44	38	34	32
8	60	46	37	32	58	45	37	31	43	36	31	42	35	31	41	35	30	28
9	56	42	34	28	54	41	34	28	40	33	28	39	32	28	37	32	27	25
10	52	39	31	26	51	38	31	26	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	175321	175321	175321
5°	166090	167225	167595
10°	169498	170970	170356
15°	175212	175434	174428
20°	179991	179503	179848
25°	189211	190502	187895
30°	189312	189224	189703
35°	181012	180566	180828
40°	163722	163944	164898
45°	150431	151167	151653
50°	140757	140996	141567
55°	127851	127451	128441
60°	119176	119061	119543
65°	111585	110180	111673
70°	107368	106008	107548
75°	106549	105086	106457
80°	106836	107154	108516
85°	120830	120321	122469



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2108.4	2.9
10°-20°	6407.7	8.7
20°-30°	10743.0	14.6
30°-40°	12885.2	17.6
40°-50°	12010.6	16.4
50°-60°	10017.8	13.6
60°-70°	7610.7	10.4
70°-80°	5428.9	7.4
80°-90°	3440.0	4.7
90°-100°	1652.2	2.3
100°-110°	860.2	1.2
110°-120°	116.7	0.2
120°-130°	34.8	0.0
130°-140°	38.7	0.1
140°-150°	32.4	0.0
150°-160°	17.4	0.0
160°-170°	9.9	0.0
170°-180°	3.3	0.0
0°-30°	19259.2	26.2
0°-40°	32144.4	43.8
0°-60°	54172.8	73.8
0°-90°	70652.4	96.2
90°-120°	2629.1	3.6
90°-150°	2735.1	3.7
90°-180°	2766.0	3.8
0°-180°	73418.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	22731	22731	22731	22731	22731	
5°	21676	21770	21824	21839	21872	###
15°	22645	22583	22673	22723	22543	6413
25°	23471	23519	23631	23459	23308	10737
35°	20832	20774	20780	20847	20810	12900
45°	15438	15479	15513	15532	15563	11964
55°	11129	11100	11094	11065	11180	10040
65°	7680	7547	7583	7596	7686	7666
75°	5169	5131	5098	5110	5164	5451
85°	3229	3229	3215	3202	3272	2803
90°	1996	1919	1757	1898	2028	1166
95°	1464	1521	1524	1479	1470	1153
105°	828	837	830	822	838	865
115°	66	71	72	70	71	114
125°	39	39	38	39	41	34
135°	50	50	50	50	51	38
145°	54	53	53	53	51	33
155°	36	36	35	35	36	18
165°	36	35	35	35	35	10
175°	33	35	33	35	36	3
180°	35	35	35	35	35	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	22730.7	22730.7	22730.7	22730.7	22730.7
2.5°	22786.6	22727.7	22834.9	22872.7	22813.8
5°	21676.1	21769.8	21824.2	21839.3	21872.5
7.5°	21865.0	21769.8	21970.7	21970.7	21815.1
10°	22097.6	22318.2	22289.5	22253.3	22209.4
12.5°	22383.2	22374.1	22371.1	22339.4	22303.1
15°	22644.6	22582.6	22673.3	22723.1	22543.3
17.5°	22810.8	22637.0	22757.9	22842.5	22623.4
20°	22881.8	22702.0	22819.8	22961.8	22863.6
22.5°	23413.6	23300.3	23347.1	23452.9	23342.6
25°	23471.0	23519.4	23631.2	23458.9	23307.8
27.5°	23138.6	23208.1	23251.9	23227.8	23109.9
30°	22721.6	22705.0	22711.0	22795.7	22768.5
32.5°	21969.2	21874.0	21908.8	21813.6	21715.4
35°	20831.6	20774.1	20780.2	20846.7	20810.4
37.5°	19417.4	19329.8	19423.4	19471.8	19390.2
40°	17889.9	18019.9	17914.1	17948.9	18018.4
42.5°	16567.9	16685.8	16631.4	16679.7	16623.8
45°	15437.8	15478.6	15513.4	15531.5	15563.2
47.5°	14387.8	14431.6	14458.8	14478.4	14480.0
50°	13399.7	13383.1	13422.4	13321.1	13476.8
52.5°	12249.9	12141.2	12136.6	12103.4	12278.7
55°	11128.9	11100.2	11094.1	11065.4	11180.3
57.5°	10181.6	10184.6	10199.7	10208.8	10305.5
60°	9323.4	9243.4	9314.4	9293.2	9352.1
62.5°	8486.4	8391.2	8426.0	8424.5	8503.0
65°	7679.6	7546.7	7582.9	7596.5	7685.7
67.5°	6978.6	6907.6	6866.8	6924.2	6989.2
70°	6322.9	6274.5	6242.8	6280.6	6333.5
72.5°	5729.1	5661.1	5662.7	5655.1	5748.8
75°	5168.6	5130.8	5097.6	5109.7	5164.1
77.5°	4568.8	4617.1	4552.2	4576.4	4600.5
80°	4034.0	4088.4	4046.0	4041.5	4097.4
82.5°	3610.9	3615.5	3613.9	3588.3	3606.4
85°	3228.7	3228.7	3215.1	3201.5	3272.5
87.5°	2876.7	2802.6	2787.5	2798.1	2840.4
90°	1995.8	1918.8	1757.1	1897.6	2027.6
92.5°	1643.8	1672.5	1630.2	1630.2	1648.3
95°	1464.0	1521.4	1524.4	1479.1	1470.1
97.5°	1346.2	1382.4	1368.8	1344.7	1358.3
100°	1202.6	1214.7	1202.6	1193.6	1198.1
102.5°	1072.7	1071.2	1065.1	1054.6	1083.3
105°	827.9	837.0	829.5	821.9	838.5
107.5°	580.2	572.6	560.5	562.0	569.6
110°	352.0	353.5	332.4	338.4	359.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	160.1	169.2	175.3	166.2	170.7
115°	66.5	71.0	72.5	69.5	71.0
117.5°	34.7	34.7	33.2	34.7	37.8
120°	31.7	33.2	30.2	31.7	34.7
122.5°	34.7	36.3	34.7	36.3	37.8
125°	39.3	39.3	37.8	39.3	40.8
127.5°	42.3	42.3	40.8	42.3	43.8
130°	43.8	45.3	45.3	45.3	45.3
132.5°	46.8	48.3	46.8	48.3	48.3
135°	49.9	49.9	49.9	49.9	51.4
137.5°	52.9	52.9	52.9	52.9	52.9
140°	54.4	54.4	54.4	54.4	54.4
142.5°	55.9	54.4	54.4	54.4	52.9
145°	54.4	52.9	52.9	52.9	51.4
147.5°	49.9	49.9	48.3	49.9	48.3
150°	45.3	43.8	43.8	43.8	43.8
152.5°	39.3	39.3	37.8	39.3	39.3
155°	36.3	36.3	34.7	34.7	36.3
157.5°	36.3	36.3	34.7	34.7	36.3
160°	36.3	36.3	34.7	34.7	34.7
162.5°	36.3	36.3	34.7	34.7	34.7
165°	36.3	34.7	34.7	34.7	34.7
167.5°	36.3	34.7	34.7	34.7	34.7
170°	36.3	34.7	34.7	34.7	34.7
172.5°	34.7	34.7	34.7	34.7	34.7
175°	33.2	34.7	33.2	34.7	36.3
177.5°	33.2	33.2	33.2	34.7	36.3
180°	34.7	34.7	34.7	34.7	34.7

(END OF REPORT)