

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: P295497

Luminaire Tested: **BMK-18-MCL-UNV-L835-CD-U**

Issue Date: 3/3/2020

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: P295497
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1904-251-5)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-18-MCL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM CLEAR LENS
Light Source: (528) 80 CRI 3500K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18285.0 lumens
Efficiency: N/A
Efficacy: 160.7 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 1.37 / 1.37
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

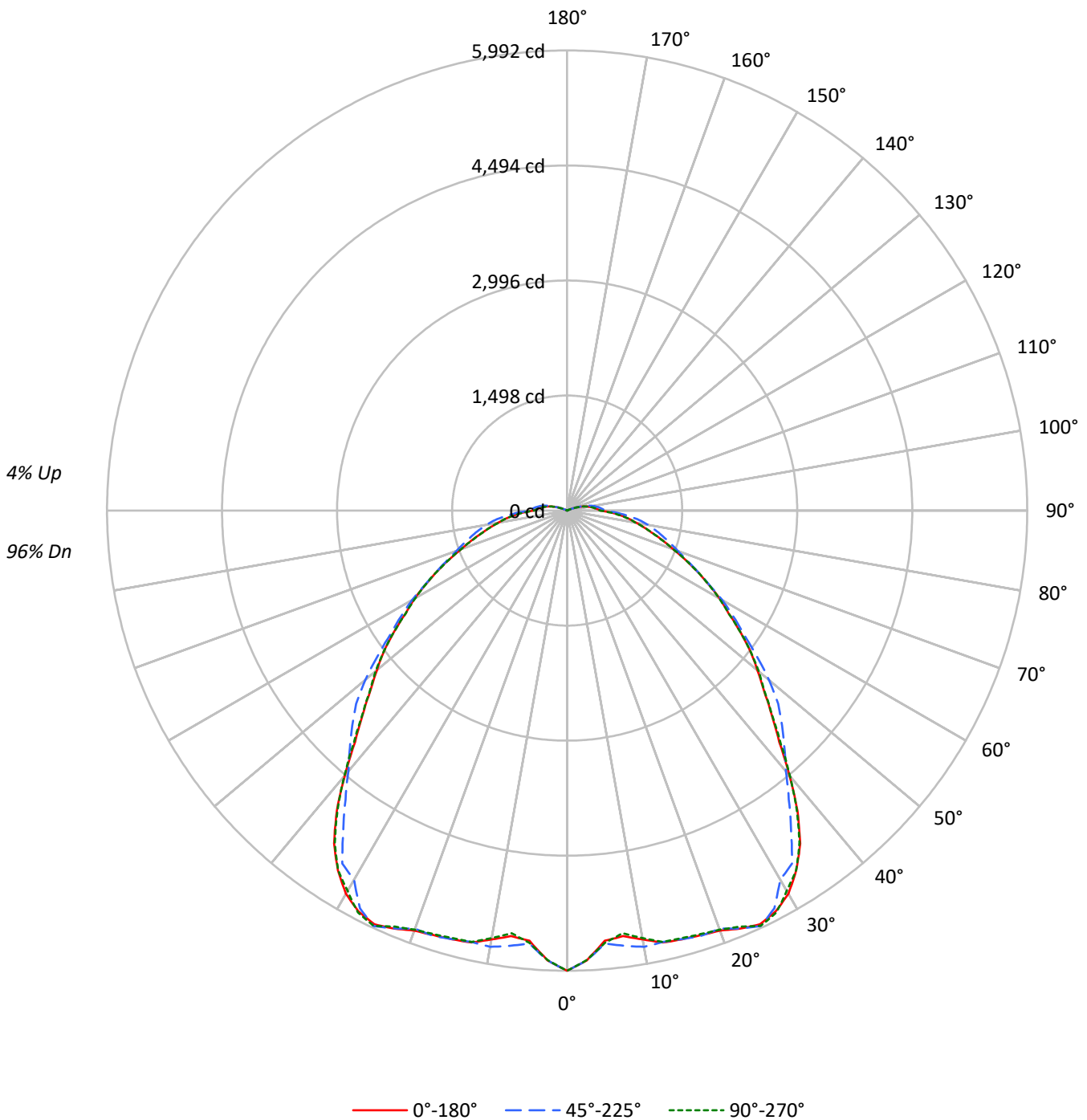
Input Watts (W): 113.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	91	88	90	87	84	86	83	81	79
2	97	89	82	76	94	87	80	75	82	77	72	79	74	70	75	71	68	66
3	89	78	70	63	86	76	69	62	73	66	61	69	64	59	66	62	58	55
4	81	69	61	54	79	68	60	53	65	58	52	62	56	51	59	54	50	48
5	75	62	53	46	73	61	52	46	58	51	45	56	49	44	54	48	44	41
6	69	56	47	41	67	55	46	40	53	45	40	51	44	39	49	43	38	36
7	64	51	42	36	62	50	42	36	48	41	35	46	40	35	45	39	34	32
8	60	46	38	32	58	46	37	32	44	37	31	42	36	31	41	35	31	29
9	56	43	34	29	54	42	34	29	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	37	30	26	36	30	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	46192	46192	46192
5°	43064	43339	43260
10°	43469	44223	43340
15°	44694	44677	44575
20°	45761	45541	45651
25°	47896	48096	48061
30°	47981	46210	47621
35°	45964	44142	45811
40°	41224	40540	41292
45°	36687	38530	36794
50°	33975	36030	34167
55°	31564	32238	31589
60°	29329	29778	29207
65°	27086	27162	27066
70°	24908	25979	24997
75°	23847	26553	23924
80°	24133	28348	23919
85°	25873	29880	25765



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	544.2	3.0
10°-20°	1640.7	9.0
20°-30°	2711.2	14.8
30°-40°	3226.8	17.6
40°-50°	3009.5	16.5
50°-60°	2507.9	13.7
60°-70°	1876.4	10.3
70°-80°	1302.8	7.1
80°-90°	789.6	4.3
90°-100°	422.5	2.3
100°-110°	219.6	1.2
110°-120°	33.4	0.2
120°-130°	0.6	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	4896.1	26.8
0°-40°	8123.0	44.4
0°-60°	13640.3	74.6
0°-90°	17609.0	96.3
90°-120°	675.4	3.7
90°-150°	676.0	3.7
90°-180°	676.0	3.7
0°-180°	18285.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5992	5992	5992	5992	5992	
5°	5623	5665	5659	5651	5649	540
15°	5779	5819	5777	5806	5764	1637
25°	5944	5941	5969	5952	5965	2720
35°	5292	5206	5082	5209	5275	3268
45°	3767	3900	3956	3907	3778	2930
55°	2749	2792	2808	2794	2751	2462
65°	1865	1886	1870	1886	1864	1849
75°	1157	1223	1289	1226	1161	1239
85°	692	711	799	711	689	611
90°	437	466	489	463	430	252
95°	359	383	428	381	363	282
105°	202	205	230	203	203	211
115°	19	22	29	23	20	32
125°	0	0	0	0	0	1
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5991.9	5991.9	5991.9	5991.9	5991.9
2.5°	5862.1	5867.2	5861.3	5845.9	5856.9
5°	5623.0	5664.8	5658.9	5650.8	5648.6
7.5°	5588.5	5651.6	5714.7	5645.7	5550.4
10°	5669.9	5733.0	5768.2	5727.9	5653.0
12.5°	5761.6	5758.7	5755.0	5752.1	5752.1
15°	5779.2	5818.8	5777.0	5805.6	5763.8
17.5°	5795.3	5823.9	5805.6	5819.5	5782.9
20°	5820.3	5849.6	5792.4	5835.7	5806.3
22.5°	5891.4	5912.7	5889.2	5910.5	5864.3
25°	5944.2	5941.3	5969.1	5952.3	5964.7
27.5°	5883.3	5865.0	5840.1	5834.2	5900.9
30°	5761.6	5663.3	5548.9	5642.0	5718.3
32.5°	5554.0	5559.2	5449.9	5565.8	5551.1
35°	5292.2	5205.7	5082.5	5208.6	5274.6
37.5°	4925.5	4860.2	4742.2	4859.5	4910.8
40°	4506.7	4517.7	4431.9	4515.5	4514.1
42.5°	4087.2	4195.0	4186.2	4177.4	4118.8
45°	3766.7	3900.2	3956.0	3906.8	3777.7
47.5°	3477.8	3664.1	3725.7	3665.5	3485.8
50°	3235.8	3359.0	3431.6	3358.2	3254.1
52.5°	3004.7	3048.0	3108.1	3061.2	3008.4
55°	2748.8	2792.1	2807.5	2794.3	2751.0
57.5°	2494.3	2562.5	2565.4	2557.4	2492.8
60°	2295.5	2323.4	2330.7	2332.9	2286.0
62.5°	2067.5	2105.6	2079.2	2105.6	2072.6
65°	1865.0	1886.3	1870.2	1885.6	1863.6
67.5°	1656.7	1715.4	1689.8	1712.5	1661.9
70°	1467.5	1542.3	1530.6	1543.8	1472.7
72.5°	1312.1	1378.1	1405.2	1372.9	1305.5
75°	1157.3	1223.3	1288.6	1225.5	1161.0
77.5°	1034.8	1084.7	1177.1	1089.1	1033.4
80°	911.6	957.8	1070.8	954.2	903.5
82.5°	811.9	833.1	946.8	837.5	807.5
85°	691.6	711.4	798.7	711.4	688.7
87.5°	568.4	583.1	641.0	590.4	560.3
90°	437.1	466.4	489.2	462.8	430.5
92.5°	399.7	421.0	460.6	417.3	396.8
95°	359.4	382.8	428.3	380.6	363.0
97.5°	329.3	341.0	385.8	340.3	327.1
100°	291.9	303.6	349.1	300.0	287.5
102.5°	248.6	255.2	297.0	257.4	249.4
105°	201.7	205.4	229.6	203.2	203.2
107.5°	150.3	148.1	156.2	145.9	149.6
110°	96.8	90.2	97.5	90.2	98.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	52.8	47.7	57.2	48.4	52.1
115°	19.1	22.0	28.6	22.7	19.8
117.5°	5.1	8.8	10.3	8.8	5.1
120°	4.4	5.1	4.4	5.1	4.4
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)