

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: P295467

Luminaire Tested: **BMK-24-MFL-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: P295467
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1904-251-3)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-24-MFL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM FROSTED 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: 23681.0 lumens
Efficiency: N/A
Efficacy: 152.3 lumens/watt
Spacing Criteria (0/90/45): 1.33 / 1.33 / 1.36
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

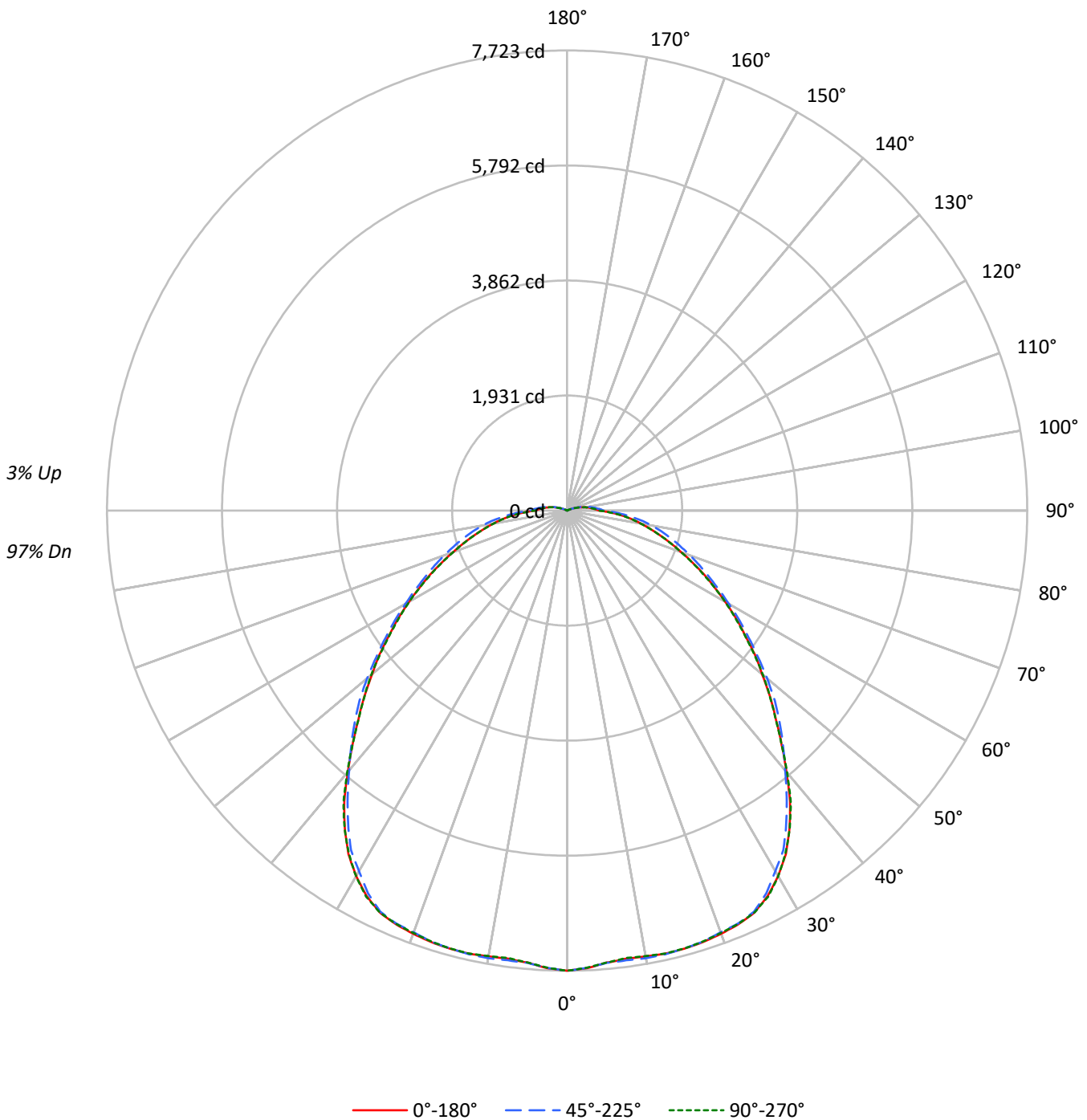
Input Watts (W): 155.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	59536	59536	59536
5°	58324	58361	58316
10°	58236	58483	58206
15°	58858	58813	58820
20°	59415	59215	59315
25°	59963	59830	59947
30°	58970	58189	59026
35°	56494	55673	56579
40°	52356	52069	52542
45°	48271	49163	48214
50°	44858	46006	45074
55°	41825	42711	41714
60°	39137	40022	39099
65°	36769	38086	36556
70°	34497	37177	34463
75°	33378	37177	33339
80°	33357	38056	33280
85°	34403	38817	34294



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	727.1	3.1
10°-20°	2153.2	9.1
20°-30°	3405.7	14.4
30°-40°	4027.9	17.0
40°-50°	3871.8	16.3
50°-60°	3308.5	14.0
60°-70°	2567.1	10.8
70°-80°	1810.8	7.6
80°-90°	1048.4	4.4
90°-100°	492.3	2.1
100°-110°	226.7	1.0
110°-120°	40.9	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°	6286.0	26.5
0°-40°	10313.9	43.6
0°-60°	17494.3	73.9
0°-90°	22920.6	96.8
90°-120°	759.8	3.2
90°-150°	760.4	3.2
90°-180°	760.0	3.2
0°-180°	23681.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7723	7723	7723	7723	7723	
5°	7616	7617	7620	7610	7614	727
15°	7611	7618	7605	7610	7606	2153
25°	7442	7423	7425	7422	7440	3415
35°	6505	6462	6410	6470	6514	4049
45°	4956	5023	5048	5012	4950	3838
55°	3642	3693	3720	3697	3633	3273
65°	2532	2587	2622	2582	2517	2511
75°	1620	1700	1804	1706	1618	1723
85°	920	954	1038	954	917	816
90°	538	590	617	588	536	312
95°	421	444	484	443	423	323
105°	206	209	224	210	205	219
115°	24	31	41	31	24	36
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°	7722.8	7722.8	7722.8	7722.8	7722.8
2.5°	7685.7	7677.9	7680.8	7672.0	7677.9
5°	7615.5	7617.4	7620.4	7609.6	7614.5
7.5°	7585.2	7595.0	7612.6	7590.1	7572.6
10°	7596.0	7612.6	7628.2	7603.8	7592.1
12.5°	7616.5	7621.3	7627.2	7615.5	7614.5
15°	7610.6	7618.4	7604.8	7609.6	7605.7
17.5°	7592.1	7595.0	7585.2	7590.1	7584.3
20°	7557.0	7552.1	7531.6	7547.2	7544.3
22.5°	7515.0	7508.2	7502.4	7511.1	7506.3
25°	7441.9	7423.4	7425.3	7422.4	7439.9
27.5°	7289.8	7259.5	7239.0	7253.7	7304.4
30°	7081.1	7040.1	6987.4	7037.2	7087.9
32.5°	6833.4	6802.1	6754.4	6799.2	6820.7
35°	6504.7	6461.8	6410.1	6469.6	6514.5
37.5°	6146.8	6120.5	6053.2	6117.5	6165.3
40°	5723.6	5729.4	5692.3	5743.1	5744.0
42.5°	5329.6	5369.6	5366.6	5366.6	5329.6
45°	4956.1	5023.3	5047.7	5011.6	4950.2
47.5°	4616.7	4684.0	4725.9	4678.1	4613.8
50°	4272.4	4343.6	4381.7	4334.8	4292.9
52.5°	3968.2	4000.3	4037.4	3996.4	3951.6
55°	3642.4	3693.2	3719.5	3697.1	3632.7
57.5°	3358.7	3394.7	3425.9	3403.5	3339.1
60°	3063.2	3103.1	3132.4	3114.8	3060.2
62.5°	2788.1	2846.7	2868.1	2839.8	2781.3
65°	2531.7	2587.3	2622.4	2582.4	2517.0
67.5°	2276.2	2349.3	2404.9	2357.1	2268.4
70°	2032.4	2128.9	2190.3	2117.2	2030.4
72.5°	1825.6	1912.4	1991.4	1909.5	1817.8
75°	1619.8	1699.8	1804.2	1705.7	1617.9
77.5°	1433.6	1509.6	1623.7	1506.7	1424.8
80°	1260.0	1320.4	1437.5	1316.5	1257.1
82.5°	1090.3	1135.2	1249.3	1133.2	1086.4
85°	919.6	953.8	1037.6	953.8	916.7
87.5°	719.7	775.3	823.1	773.3	709.0
90°	538.3	590.0	617.3	588.1	536.4
92.5°	479.8	506.1	550.0	506.1	479.8
95°	421.3	443.7	483.7	442.7	423.2
97.5°	365.7	383.3	421.3	381.3	367.7
100°	315.0	323.8	358.9	325.7	313.0
102.5°	260.4	266.2	291.6	264.3	260.4
105°	205.8	208.7	224.3	209.7	204.8
107.5°	150.2	153.1	160.9	152.1	149.2
110°	99.5	101.4	111.2	101.4	100.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	57.5	62.4	72.2	62.4	57.5
115°	24.4	31.2	41.0	31.2	24.4
117.5°	7.8	12.7	15.6	12.7	6.8
120°	4.9	5.9	4.9	5.9	4.9
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)