

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: P295474

Luminaire Tested: **BMK-30-MFL-UNV-L840-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: P295474  
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-30-MFL-UNV-L840-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH MEDIUM FROSTED LENS  
Light Source: (528) 80 CRI 4000K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 29649.0 lumens  
Efficiency: N/A  
Efficacy: 147.4 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

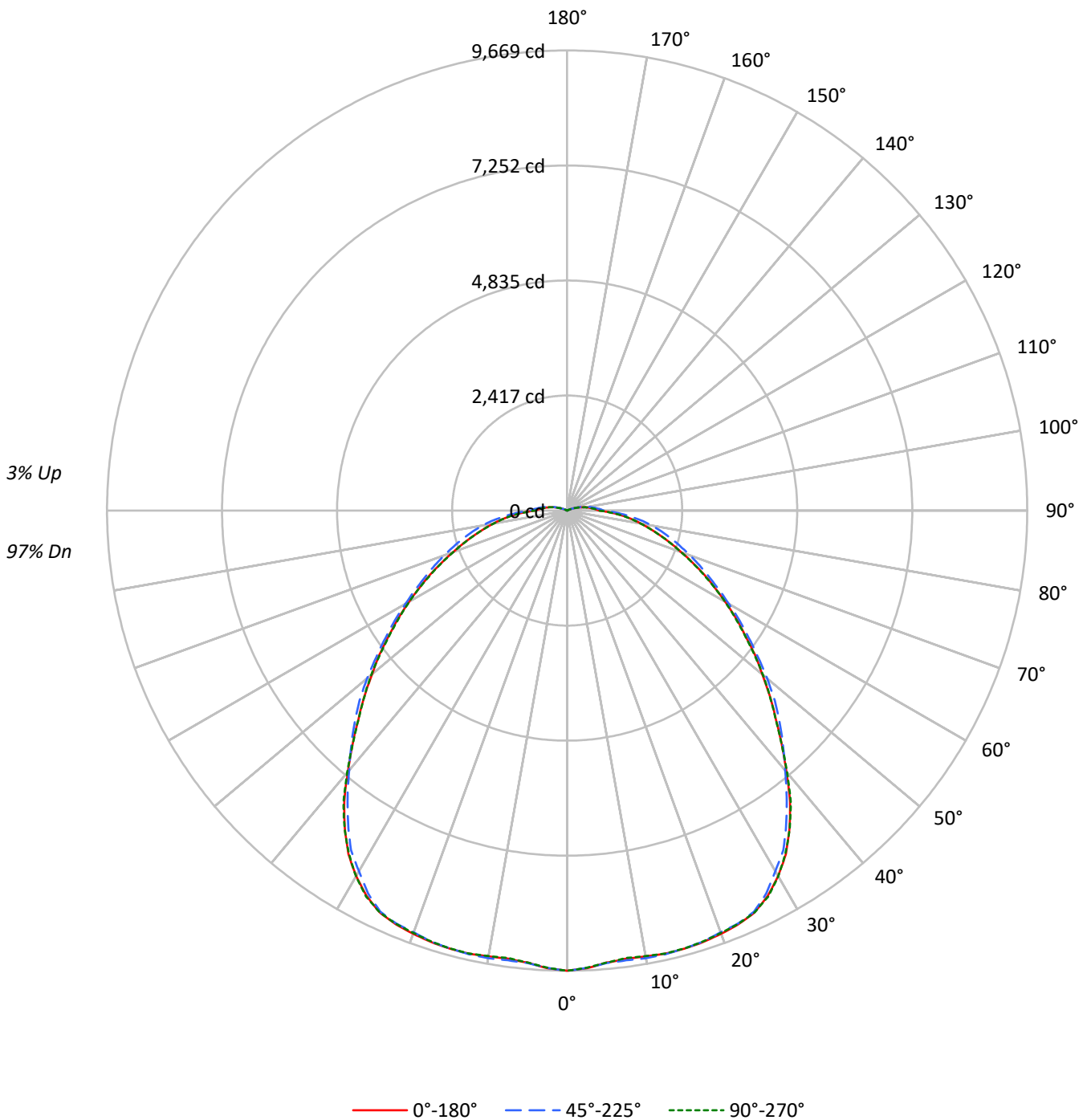
Input Watts (W): 201.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	74539	74539	74539
5°	73022	73069	73013
10°	72912	73221	72875
15°	73691	73635	73644
20°	74388	74139	74264
25°	75075	74908	75055
30°	73831	72855	73901
35°	70732	69704	70838
40°	65550	65192	65784
45°	60436	61553	60364
50°	56164	57600	56433
55°	52366	53475	52226
60°	49000	50107	48954
65°	46035	47684	45769
70°	43189	46546	43148
75°	41791	46545	41740
80°	41762	47644	41667
85°	43074	48600	42936



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	910.4	3.1
10°-20°	2695.9	9.1
20°-30°	4263.9	14.4
30°-40°	5043.0	17.0
40°-50°	4847.5	16.3
50°-60°	4142.4	14.0
60°-70°	3214.0	10.8
70°-80°	2267.2	7.6
80°-90°	1312.6	4.4
90°-100°	616.4	2.1
100°-110°	283.8	1.0
110°-120°	51.1	0.2
120°-130°	0.8	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°	7870.2	26.5
0°-40°	12913.2	43.6
0°-60°	21903.1	73.9
0°-90°	28696.9	96.8
90°-120°	951.3	3.2
90°-150°	952.1	3.2
90°-180°	952.0	3.2
0°-180°	29649.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9669	9669	9669	9669	9669	
5°	9535	9537	9541	9527	9534	910
15°	9529	9538	9521	9527	9522	2696
25°	9317	9294	9297	9293	9315	4276
35°	8144	8090	8026	8100	8156	5069
45°	6205	6289	6320	6275	6198	4805
55°	4560	4624	4657	4629	4548	4097
65°	3170	3239	3283	3233	3151	3143
75°	2028	2128	2259	2136	2026	2157
85°	1151	1194	1299	1194	1148	1022
90°	674	739	773	736	672	391
95°	528	556	606	554	530	404
105°	258	261	281	262	256	274
115°	30	39	51	39	30	45
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°	9669.0	9669.0	9669.0	9669.0	9669.0
2.5°	9622.6	9612.8	9616.5	9605.5	9612.8
5°	9534.7	9537.1	9540.8	9527.4	9533.5
7.5°	9496.9	9509.1	9531.0	9503.0	9481.0
10°	9510.3	9531.0	9550.6	9520.1	9505.4
12.5°	9535.9	9542.0	9549.4	9534.7	9533.5
15°	9528.6	9538.4	9521.3	9527.4	9522.5
17.5°	9505.4	9509.1	9496.9	9503.0	9495.6
20°	9461.4	9455.3	9429.7	9449.2	9445.6
22.5°	9408.9	9400.4	9393.1	9404.1	9398.0
25°	9317.4	9294.2	9296.6	9292.9	9314.9
27.5°	9126.9	9089.0	9063.4	9081.7	9145.2
30°	8865.6	8814.3	8748.4	8810.7	8874.1
32.5°	8555.5	8516.4	8456.6	8512.7	8539.6
35°	8144.0	8090.3	8025.6	8100.0	8156.2
37.5°	7695.9	7662.9	7578.7	7659.3	7719.1
40°	7166.0	7173.3	7126.9	7190.4	7191.6
42.5°	6672.7	6722.8	6719.1	6719.1	6672.7
45°	6205.1	6289.3	6319.8	6274.7	6197.7
47.5°	5780.2	5864.4	5916.9	5857.1	5776.5
50°	5349.2	5438.3	5485.9	5427.3	5374.8
52.5°	4968.2	5008.5	5054.9	5003.6	4947.4
55°	4560.4	4623.9	4656.9	4628.8	4548.2
57.5°	4205.1	4250.3	4289.3	4261.3	4180.7
60°	3835.1	3885.2	3921.8	3899.8	3831.5
62.5°	3490.8	3564.1	3590.9	3555.5	3482.3
65°	3169.7	3239.3	3283.2	3233.2	3151.4
67.5°	2849.8	2941.4	3011.0	2951.1	2840.0
70°	2544.5	2665.4	2742.3	2650.8	2542.1
72.5°	2285.7	2394.4	2493.3	2390.7	2275.9
75°	2028.1	2128.2	2258.8	2135.5	2025.6
77.5°	1794.9	1890.1	2032.9	1886.4	1783.9
80°	1577.5	1653.2	1799.7	1648.3	1573.9
82.5°	1365.1	1421.2	1564.1	1418.8	1360.2
85°	1151.4	1194.1	1299.1	1194.1	1147.7
87.5°	901.1	970.7	1030.5	968.2	887.7
90°	674.0	738.7	772.9	736.3	671.5
92.5°	600.7	633.7	688.6	633.7	600.7
95°	527.5	555.6	605.6	554.3	529.9
97.5°	457.9	479.8	527.5	477.4	460.3
100°	394.4	405.4	449.3	407.8	391.9
102.5°	326.0	333.3	365.1	330.9	326.0
105°	257.6	261.3	280.8	262.5	256.4
107.5°	188.0	191.7	201.5	190.5	186.8
110°	124.5	127.0	139.2	127.0	125.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	72.0	78.1	90.4	78.1	72.0
115°	30.5	39.1	51.3	39.1	30.5
117.5°	9.8	15.9	19.5	15.9	8.5
120°	6.1	7.3	6.1	7.3	6.1
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)