

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: P295461

Luminaire Tested: **BMK-18-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: P295461  
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-18-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**

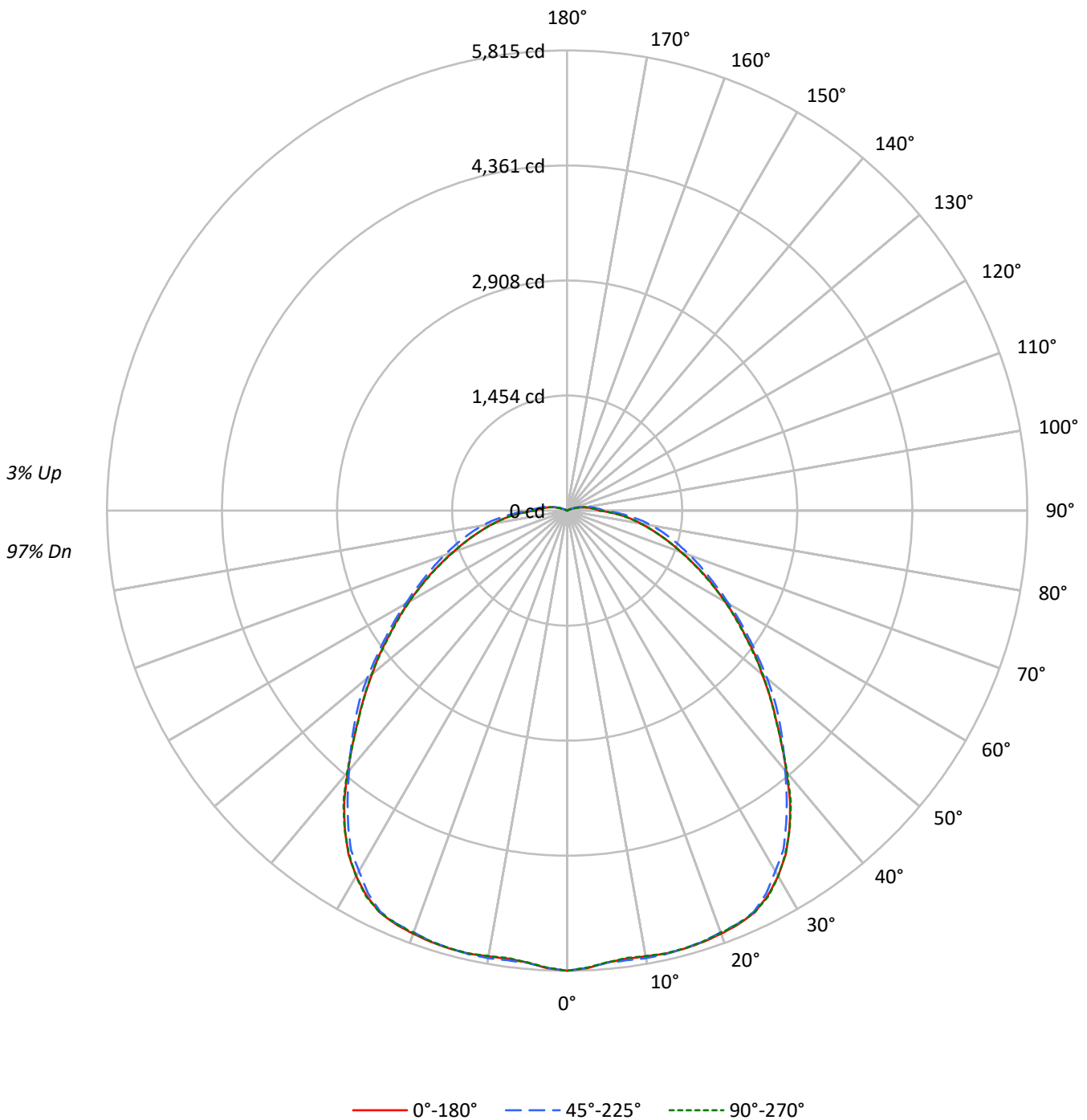
Lumens per Lamp: N/A  
Luminaire Lumens: 17830.0 lumens  
Efficiency: N/A  
Efficacy: 156.7 lumens/watt  
Spacing Criteria (0/90/45): 1.33 / 1.33 / 1.36  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct  
  
Input Watts (W): 113.8  
Input Voltage (V): 120  
Input Current (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	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°	44825	44825	44825
5°	43913	43942	43907
10°	43847	44033	43825
15°	44316	44282	44287
20°	44735	44585	44660
25°	45148	45047	45136
30°	44400	43812	44442
35°	42536	41917	42600
40°	39419	39204	39560
45°	36344	37017	36301
50°	33775	34639	33937
55°	31492	32158	31407
60°	29467	30134	29439
65°	27685	28675	27524
70°	25973	27992	25947
75°	25131	27991	25100
80°	25115	28652	25057
85°	25903	29229	25821



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	547.5	3.1
10°-20°	1621.2	9.1
20°-30°	2564.2	14.4
30°-40°	3032.7	17.0
40°-50°	2915.2	16.3
50°-60°	2491.1	14.0
60°-70°	1932.8	10.8
70°-80°	1363.4	7.6
80°-90°	789.3	4.4
90°-100°	370.7	2.1
100°-110°	170.7	1.0
110°-120°	30.7	0.2
120°-130°	0.5	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°	4732.9	26.5
0°-40°	7765.6	43.6
0°-60°	13171.9	73.9
0°-90°	17257.5	96.8
90°-120°	572.1	3.2
90°-150°	572.5	3.2
90°-180°	573.0	3.2
0°-180°	17830.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5815	5815	5815	5815	5815	
5°	5734	5735	5738	5730	5733	547
15°	5730	5736	5726	5730	5726	1621
25°	5603	5589	5591	5588	5602	2571
35°	4898	4865	4826	4871	4905	3049
45°	3732	3782	3801	3773	3727	2889
55°	2742	2781	2800	2784	2735	2464
65°	1906	1948	1974	1944	1895	1890
75°	1220	1280	1358	1284	1218	1297
85°	692	718	781	718	690	615
90°	405	444	465	443	404	235
95°	317	334	364	333	319	243
105°	155	157	169	158	154	165
115°	18	24	31	24	18	27
125°	0	0	0	0	0	0
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°	5814.6	5814.6	5814.6	5814.6	5814.6
2.5°	5786.7	5780.9	5783.1	5776.5	5780.9
5°	5733.9	5735.3	5737.6	5729.5	5733.1
7.5°	5711.1	5718.5	5731.7	5714.8	5701.6
10°	5719.2	5731.7	5743.4	5725.1	5716.3
12.5°	5734.6	5738.3	5742.7	5733.9	5733.1
15°	5730.2	5736.1	5725.8	5729.5	5726.5
17.5°	5716.3	5718.5	5711.1	5714.8	5710.4
20°	5689.8	5686.2	5670.7	5682.5	5680.3
22.5°	5658.3	5653.1	5648.7	5655.3	5651.6
25°	5603.2	5589.2	5590.7	5588.5	5601.7
27.5°	5488.6	5465.9	5450.5	5461.5	5499.6
30°	5331.5	5300.7	5261.0	5298.5	5336.6
32.5°	5145.0	5121.5	5085.5	5119.3	5135.5
35°	4897.6	4865.2	4826.3	4871.1	4904.9
37.5°	4628.1	4608.3	4557.6	4606.0	4642.0
40°	4309.4	4313.8	4285.9	4324.1	4324.8
42.5°	4012.8	4042.9	4040.7	4040.7	4012.8
45°	3731.5	3782.2	3800.6	3773.4	3727.1
47.5°	3476.0	3526.7	3558.3	3522.3	3473.8
50°	3216.8	3270.4	3299.1	3263.8	3232.2
52.5°	2987.7	3012.0	3039.9	3009.0	2975.2
55°	2742.5	2780.7	2800.5	2783.6	2735.1
57.5°	2528.8	2556.0	2579.5	2562.6	2514.1
60°	2306.3	2336.4	2358.5	2345.2	2304.1
62.5°	2099.3	2143.3	2159.5	2138.2	2094.1
65°	1906.2	1948.0	1974.4	1944.3	1895.1
67.5°	1713.8	1768.8	1810.7	1774.7	1707.9
70°	1530.2	1602.9	1649.2	1594.1	1528.7
72.5°	1374.5	1439.9	1499.4	1437.7	1368.7
75°	1219.6	1279.8	1358.4	1284.2	1218.1
77.5°	1079.4	1136.6	1222.6	1134.4	1072.8
80°	948.7	994.2	1082.3	991.3	946.5
82.5°	820.9	854.7	940.6	853.2	818.0
85°	692.4	718.1	781.3	718.1	690.2
87.5°	541.9	583.7	619.7	582.3	533.8
90°	405.3	444.2	464.8	442.8	403.8
92.5°	361.3	381.1	414.1	381.1	361.3
95°	317.2	334.1	364.2	333.4	318.7
97.5°	275.3	288.6	317.2	287.1	276.8
100°	237.2	243.8	270.2	245.2	235.7
102.5°	196.0	200.5	219.5	199.0	196.0
105°	154.9	157.1	168.9	157.9	154.2
107.5°	113.1	115.3	121.2	114.5	112.3
110°	74.9	76.4	83.7	76.4	75.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	43.3	47.0	54.3	47.0	43.3
115°	18.4	23.5	30.8	23.5	18.4
117.5°	5.9	9.5	11.7	9.5	5.1
120°	3.7	4.4	3.7	4.4	3.7
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)