

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: P295509

Luminaire Tested: **BMK-30-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: P295509  
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-30-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: 29979.0 lumens  
Efficiency: N/A  
Efficacy: 149.1 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

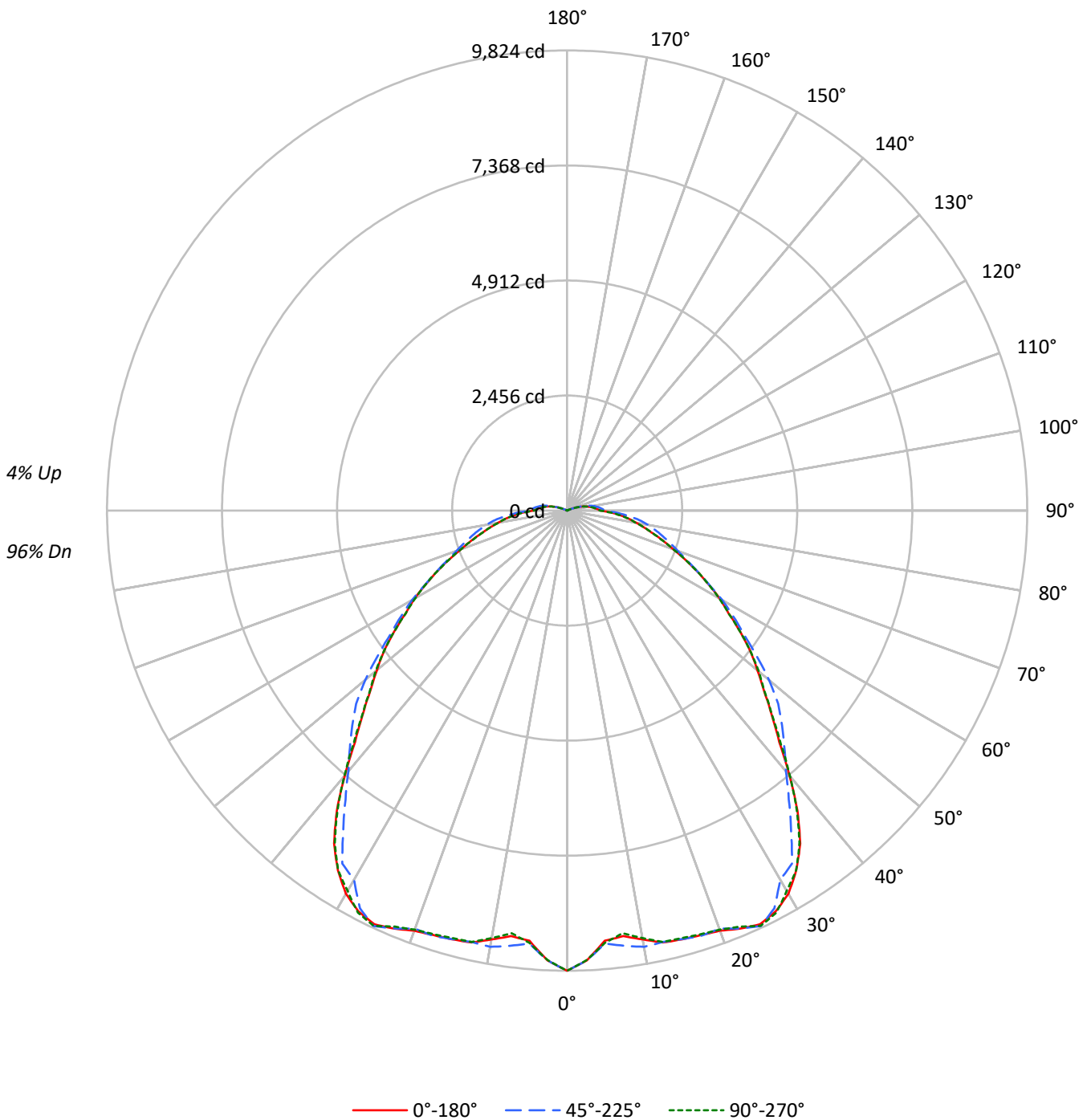
Input Watts (W): 201.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P295509

CATALOG NUMBER: BMK-30-MCL-UNV-L835-CD-U

### Luminous Intensity Polar Plot





TEST NUMBER: P295509

CATALOG NUMBER: BMK-30-MCL-UNV-L835-CD-U

**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°	75733	75733	75733
5°	70605	71056	70927
10°	71270	72505	71058
15°	73278	73250	73083
20°	75026	74667	74846
25°	78527	78856	78798
30°	78667	75764	78076
35°	75359	72372	75108
40°	67589	66467	67699
45°	60150	63172	60326
50°	55702	59073	56017
55°	51750	52855	51791
60°	48086	48823	47887
65°	44410	44532	44375
70°	40840	42595	40982
75°	39098	43534	39224
80°	39567	46477	39218
85°	42420	48989	42240



TEST NUMBER: P295509

CATALOG NUMBER: BMK-30-MCL-UNV-L835-CD-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	892.3	3.0
10°-20°	2690.0	9.0
20°-30°	4445.1	14.8
30°-40°	5290.5	17.6
40°-50°	4934.2	16.5
50°-60°	4111.7	13.7
60°-70°	3076.4	10.3
70°-80°	2135.9	7.1
80°-90°	1294.6	4.3
90°-100°	692.7	2.3
100°-110°	360.1	1.2
110°-120°	54.7	0.2
120°-130°	0.9	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°	8027.4	26.8
0°-40°	13317.9	44.4
0°-60°	22363.8	74.6
0°-90°	28870.7	96.3
90°-120°	1107.4	3.7
90°-150°	1108.3	3.7
90°-180°	1108.0	3.7
0°-180°	29979.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9824	9824	9824	9824	9824	
5°	9219	9288	9278	9265	9261	886
15°	9475	9540	9472	9518	9450	2685
25°	9746	9741	9787	9759	9779	4459
35°	8677	8535	8333	8540	8648	5358
45°	6176	6395	6486	6405	6194	4804
55°	4507	4578	4603	4581	4510	4036
65°	3058	3093	3066	3092	3055	3031
75°	1897	2006	2113	2009	1904	2032
85°	1134	1166	1310	1166	1129	1001
90°	717	765	802	759	706	414
95°	589	628	702	624	595	462
105°	331	337	376	333	333	346
115°	31	36	47	37	32	53
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



TEST NUMBER: P295509

CATALOG NUMBER: BMK-30-MCL-UNV-L835-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	9823.9	9823.9	9823.9	9823.9	9823.9
2.5°	9611.1	9619.5	9609.9	9584.6	9602.7
5°	9219.1	9287.6	9278.0	9264.8	9261.2
7.5°	9162.6	9266.0	9369.4	9256.4	9100.1
10°	9296.1	9399.5	9457.2	9391.0	9268.4
12.5°	9446.4	9441.5	9435.5	9430.7	9430.7
15°	9475.2	9540.1	9471.6	9518.5	9450.0
17.5°	9501.7	9548.6	9518.5	9541.3	9481.2
20°	9542.6	9590.6	9496.9	9567.8	9519.7
22.5°	9659.2	9694.1	9655.6	9690.5	9614.7
25°	9745.8	9741.0	9786.6	9759.0	9779.4
27.5°	9646.0	9615.9	9575.0	9565.4	9674.8
30°	9446.4	9285.2	9097.7	9250.4	9375.4
32.5°	9106.1	9114.5	8935.3	9125.3	9101.3
35°	8676.8	8534.9	8332.9	8539.7	8647.9
37.5°	8075.6	7968.6	7775.0	7967.4	8051.5
40°	7389.0	7407.0	7266.3	7403.4	7401.0
42.5°	6701.2	6877.9	6863.5	6849.1	6752.9
45°	6175.7	6394.6	6486.0	6405.4	6193.8
47.5°	5702.0	6007.4	6108.4	6009.8	5715.2
50°	5305.2	5507.2	5626.2	5506.0	5335.2
52.5°	4926.4	4997.3	5095.9	5019.0	4932.4
55°	4506.7	4577.7	4602.9	4581.3	4510.3
57.5°	4089.5	4201.3	4206.1	4192.9	4087.1
60°	3763.6	3809.3	3821.3	3825.0	3748.0
62.5°	3389.7	3452.2	3408.9	3452.2	3398.1
65°	3057.8	3092.7	3066.2	3091.5	3055.4
67.5°	2716.3	2812.5	2770.4	2807.7	2724.7
70°	2406.1	2528.7	2509.5	2531.1	2414.5
72.5°	2151.2	2259.4	2303.9	2251.0	2140.3
75°	1897.4	2005.7	2112.7	2009.3	1903.5
77.5°	1696.6	1778.4	1929.9	1785.6	1694.2
80°	1494.6	1570.4	1755.6	1564.4	1481.4
82.5°	1331.1	1366.0	1552.3	1373.2	1323.9
85°	1133.9	1166.4	1309.5	1166.4	1129.1
87.5°	931.9	955.9	1050.9	968.0	918.7
90°	716.7	764.8	802.0	758.7	705.8
92.5°	655.3	690.2	755.1	684.2	650.5
95°	589.2	627.7	702.2	624.1	595.2
97.5°	539.9	559.1	632.5	557.9	536.3
100°	478.6	497.8	572.4	491.8	471.4
102.5°	407.6	418.4	487.0	422.1	408.8
105°	330.7	336.7	376.4	333.1	333.1
107.5°	246.5	242.9	256.1	239.3	245.3
110°	158.7	147.9	159.9	147.9	161.1



TEST NUMBER: P295509

CATALOG NUMBER: BMK-30-MCL-UNV-L835-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	86.6	78.2	93.8	79.4	85.4
115°	31.3	36.1	46.9	37.3	32.5
117.5°	8.4	14.4	16.8	14.4	8.4
120°	7.2	8.4	7.2	8.4	7.2
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)