

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: P295510

Luminaire Tested: **BMK-30-MCL-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: P295510  
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-L840-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH MEDIUM CLEAR 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: 30404.0 lumens  
Efficiency: N/A  
Efficacy: 151.2 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

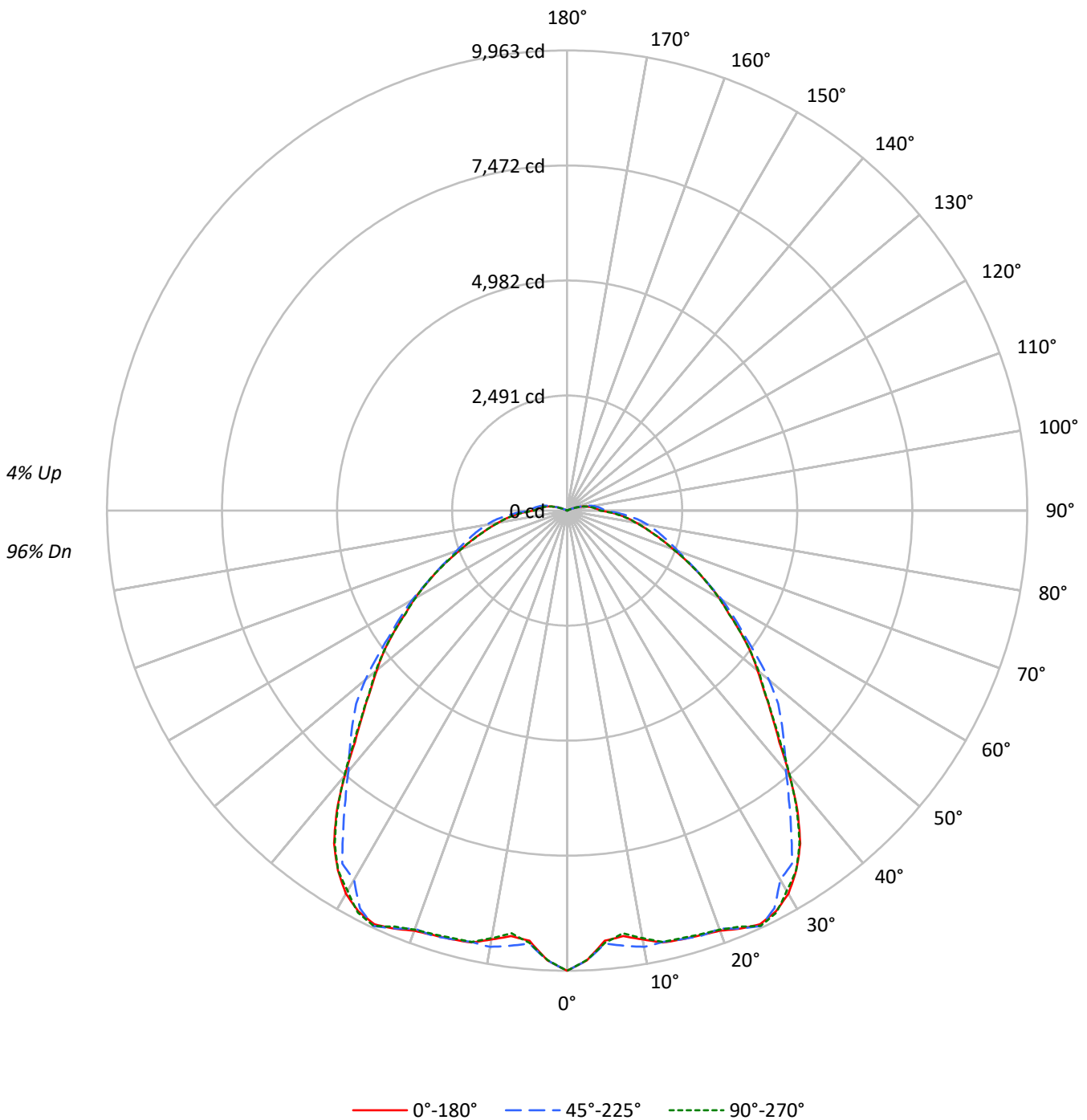
Input Watts (W): 201.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P295510

CATALOG NUMBER: BMK-30-MCL-UNV-L840-CD-U

### Luminous Intensity Polar Plot





TEST NUMBER: P295510

CATALOG NUMBER: BMK-30-MCL-UNV-L840-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	50	30	10	0	
RCR																						
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	99	99	99	96	
1	107	102	97	93	104	99	95	91	94	91	88	90	87	84	86	83	81	86	83	81	79	
2	97	89	82	76	94	87	80	75	82	77	72	79	74	70	75	71	68	75	71	68	66	
3	89	78	70	63	86	76	69	62	73	66	61	69	64	59	66	62	58	66	62	58	55	
4	81	69	61	54	79	68	60	53	65	58	52	62	56	51	59	54	50	59	54	50	48	
5	75	62	53	46	73	61	52	46	58	51	45	56	49	44	54	48	44	54	48	44	41	
6	69	56	47	41	67	55	46	40	53	45	40	51	44	39	49	43	38	49	43	38	36	
7	64	51	42	36	62	50	42	36	48	41	35	46	40	35	45	39	34	45	39	34	32	
8	60	46	38	32	58	46	37	32	44	37	31	42	36	31	41	35	31	41	35	31	29	
9	56	43	34	29	54	42	34	29	40	33	28	39	33	28	38	32	28	38	32	28	26	
10	52	39	31	26	51	39	31	26	37	30	26	36	30	25	35	29	25	35	29	25	23	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	76807	76807	76807
5°	71606	72063	71933
10°	72280	73532	72065
15°	74317	74289	74119
20°	76089	75725	75908
25°	79640	79974	79916
30°	79783	76837	79183
35°	76428	73398	76173
40°	68547	67409	68659
45°	61003	64067	61181
50°	56492	59911	56812
55°	52484	53604	52526
60°	48768	49516	48565
65°	45040	45164	45004
70°	41418	43199	41563
75°	39652	44151	39778
80°	40128	47133	39774
85°	43022	49681	42839



TEST NUMBER: P295510

CATALOG NUMBER: BMK-30-MCL-UNV-L840-CD-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	905.0	3.0
10°-20°	2728.1	9.0
20°-30°	4508.1	14.8
30°-40°	5365.5	17.6
40°-50°	5004.1	16.5
50°-60°	4170.0	13.7
60°-70°	3120.0	10.3
70°-80°	2166.2	7.1
80°-90°	1312.9	4.3
90°-100°	702.5	2.3
100°-110°	365.2	1.2
110°-120°	55.5	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°	8141.2	26.8
0°-40°	13506.7	44.4
0°-60°	22680.9	74.6
0°-90°	29279.9	96.3
90°-120°	1123.1	3.7
90°-150°	1124.0	3.7
90°-180°	1124.0	3.7
0°-180°	30404.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9963	9963	9963	9963	9963	
5°	9350	9419	9410	9396	9392	899
15°	9610	9675	9606	9653	9584	2723
25°	9884	9879	9925	9897	9918	4523
35°	8800	8656	8451	8661	8770	5434
45°	6263	6485	6578	6496	6282	4872
55°	4571	4643	4668	4646	4574	4094
65°	3101	3136	3110	3135	3099	3074
75°	1924	2034	2143	2038	1930	2061
85°	1150	1183	1328	1183	1145	1015
90°	727	776	813	770	716	420
95°	598	637	712	633	604	469
105°	335	342	382	338	338	351
115°	32	37	48	38	33	54
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: P295510

CATALOG NUMBER: BMK-30-MCL-UNV-L840-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	9963.2	9963.2	9963.2	9963.2	9963.2
2.5°	9747.3	9755.9	9746.1	9720.5	9738.8
5°	9349.8	9419.3	9409.5	9396.1	9392.5
7.5°	9292.5	9397.4	9502.2	9387.6	9229.1
10°	9427.8	9532.7	9591.2	9524.2	9399.8
12.5°	9580.3	9575.4	9569.3	9564.4	9564.4
15°	9609.5	9675.4	9605.9	9653.4	9583.9
17.5°	9636.4	9683.9	9653.4	9676.6	9615.6
20°	9677.8	9726.6	9631.5	9703.4	9654.7
22.5°	9796.1	9831.5	9792.5	9827.8	9751.0
25°	9883.9	9879.0	9925.4	9897.3	9918.1
27.5°	9782.7	9752.2	9710.8	9701.0	9812.0
30°	9580.3	9416.9	9226.6	9381.5	9508.3
32.5°	9235.2	9243.7	9062.0	9254.7	9230.3
35°	8799.8	8655.9	8451.0	8660.8	8770.5
37.5°	8190.1	8081.5	7885.2	8080.3	8165.7
40°	7493.7	7512.0	7369.3	7508.4	7505.9
42.5°	6796.2	6975.5	6960.8	6946.2	6848.6
45°	6263.3	6485.2	6577.9	6496.2	6281.6
47.5°	5782.8	6092.5	6195.0	6095.0	5796.2
50°	5380.4	5585.2	5706.0	5584.0	5410.9
52.5°	4996.2	5068.2	5168.2	5090.1	5002.3
55°	4570.6	4642.6	4668.2	4646.2	4574.3
57.5°	4147.5	4260.9	4265.8	4252.3	4145.0
60°	3817.0	3863.3	3875.5	3879.2	3801.1
62.5°	3437.7	3501.1	3457.2	3501.1	3446.3
65°	3101.2	3136.5	3109.7	3135.3	3098.7
67.5°	2754.8	2852.4	2809.7	2847.5	2763.4
70°	2440.2	2564.6	2545.1	2567.0	2448.7
72.5°	2181.7	2291.4	2336.5	2282.9	2170.7
75°	1924.3	2034.1	2142.6	2037.8	1930.4
77.5°	1720.7	1803.6	1957.3	1810.9	1718.3
80°	1515.8	1592.6	1780.4	1586.6	1502.4
82.5°	1350.0	1385.3	1574.4	1392.7	1342.7
85°	1150.0	1182.9	1328.0	1182.9	1145.1
87.5°	945.1	969.5	1065.8	981.7	931.7
90°	726.8	775.6	813.4	769.5	715.8
92.5°	664.6	700.0	765.8	693.9	659.7
95°	597.5	636.6	712.2	632.9	603.6
97.5°	547.5	567.1	641.4	565.8	543.9
100°	485.4	504.9	580.5	498.8	478.0
102.5°	413.4	424.4	493.9	428.0	414.6
105°	335.4	341.5	381.7	337.8	337.8
107.5°	250.0	246.3	259.8	242.7	248.8
110°	161.0	150.0	162.2	150.0	163.4



TEST NUMBER: P295510

CATALOG NUMBER: BMK-30-MCL-UNV-L840-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	87.8	79.3	95.1	80.5	86.6
115°	31.7	36.6	47.6	37.8	32.9
117.5°	8.5	14.6	17.1	14.6	8.5
120°	7.3	8.5	7.3	8.5	7.3
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)