

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: P381666

Luminaire Tested: **BMK-60-NCL-UNV-L835-CD-U**

Issue Date: 2/4/2020

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: P381666
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-3)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-60-NCL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW CLEAR LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 57840.1 lumens
Efficiency: N/A
Efficacy: 142.6 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.07 / 1.07
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

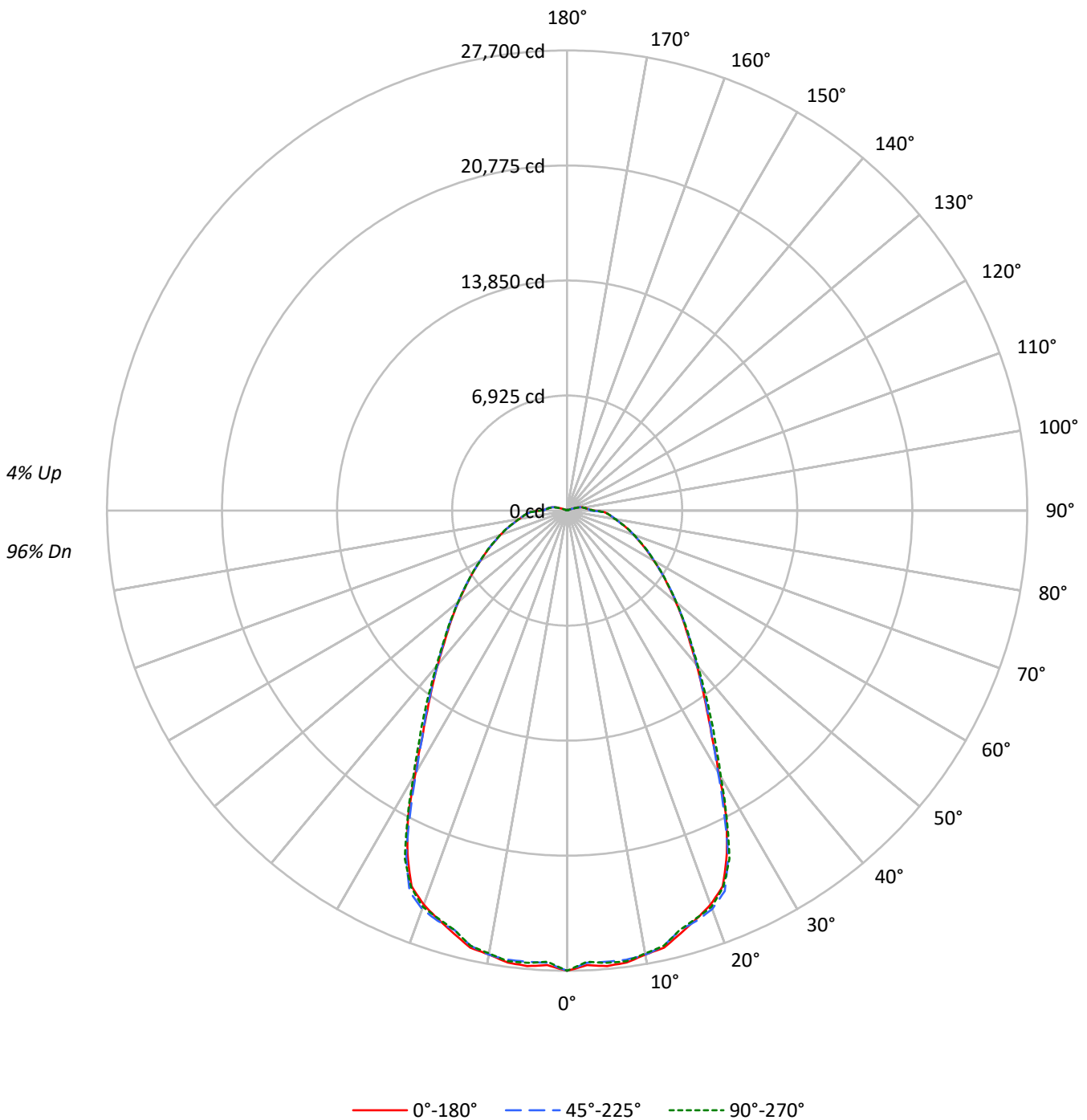
Input Watts (W): 405.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96								
1	107	103	98	94	104	100	96	92	95	92	89	90	88	85	86	84	82	80								
2	98	90	84	78	95	88	82	77	84	79	74	80	76	72	76	73	70	68								
3	91	80	73	66	88	79	71	65	75	69	64	72	67	62	69	64	61	58								
4	84	72	64	57	81	71	63	57	68	61	56	65	59	54	62	57	53	51								
5	77	65	57	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45								
6	72	59	51	45	70	58	50	45	56	49	44	54	48	43	52	47	43	40								
7	67	54	46	40	65	54	46	40	52	45	40	50	44	39	48	43	38	37								
8	63	50	42	37	61	49	42	36	48	41	36	46	40	36	45	39	35	33								
9	59	46	39	33	58	46	38	33	44	38	33	43	37	33	42	36	32	30								
10	56	43	36	31	54	43	35	31	41	35	30	40	34	30	39	34	30	28								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	213652	213652	213652
5°	210869	208929	209396
10°	208123	208206	207610
15°	203926	202365	202273
20°	198533	200787	199698
25°	183389	184824	186354
30°	152115	151100	154224
35°	127385	128163	130508
40°	110948	111156	112194
45°	98628	99478	99595
50°	89612	89901	90101
55°	82528	82720	82733
60°	77002	77368	77169
65°	73647	73924	74254
70°	72399	72623	72805
75°	72999	72776	73294
80°	77934	78284	77651
85°	92919	92564	93369



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2605.7	4.5
10°-20°	7424.1	12.8
20°-30°	10324.7	17.9
30°-40°	9307.5	16.1
40°-50°	7888.5	13.6
50°-60°	6456.2	11.2
60°-70°	5075.1	8.8
70°-80°	3774.6	6.5
80°-90°	2628.7	4.5
90°-100°	1360.6	2.4
100°-110°	761.3	1.3
110°-120°	111.4	0.2
120°-130°	30.1	0.1
130°-140°	33.5	0.1
140°-150°	28.8	0.0
150°-160°	16.4	0.0
160°-170°	9.7	0.0
170°-180°	3.3	0.0
0°-30°	20354.5	35.2
0°-40°	29661.9	51.3
0°-60°	44006.7	76.1
0°-90°	55485.0	95.9
90°-120°	2233.2	3.9
90°-150°	2325.6	4.0
90°-180°	2355.0	4.1
0°-180°	57840.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	27700	27700	27700	27700	27700	
5°	27520	27278	27267	27408	27328	###
15°	26356	26205	26154	26341	26142	7432
25°	22749	22813	22927	23139	23117	10281
35°	14660	14641	14750	14794	15019	9256
45°	10122	10141	10209	10147	10221	7855
55°	7184	7149	7200	7200	7202	6452
65°	5069	5065	5088	5144	5110	5044
75°	3541	3553	3530	3554	3555	3770
85°	2483	2489	2473	2465	2495	2120
90°	1625	1547	1415	1526	1591	938
95°	1215	1225	1255	1197	1191	964
105°	767	760	752	734	744	766
115°	74	73	73	69	72	113
125°	33	35	33	33	35	29
135°	43	44	43	43	44	33
145°	48	47	48	47	47	29
155°	33	35	33	33	33	17
165°	36	35	35	35	35	10
175°	35	35	35	35	36	3
180°	35	35	35	35	35	



TEST NUMBER: P381666

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	27700.4	27700.4	27700.4	27700.4	27700.4
2.5°	27388.7	27254.9	27245.4	27284.8	27180.9
5°	27520.1	27277.6	27266.9	27407.8	27327.8
7.5°	27436.5	27234.6	27268.1	27431.7	27356.5
10°	27133.1	27050.7	27143.9	27282.4	27066.2
12.5°	26945.6	26831.0	26831.0	26851.3	26840.5
15°	26355.6	26205.2	26153.8	26341.3	26141.9
17.5°	25797.9	25666.5	25891.1	25834.9	25751.3
20°	25239.0	25314.2	25525.6	25411.0	25387.1
22.5°	24477.0	24504.5	24789.9	24794.7	24542.7
25°	22748.9	22813.4	22926.8	23139.4	23116.7
27.5°	20713.8	20464.2	20453.4	20926.4	20778.3
30°	18257.1	18189.1	18135.3	18490.0	18510.3
32.5°	16243.6	16315.2	16240.0	16433.5	16613.8
35°	14659.9	14640.8	14749.5	14793.7	15019.4
37.5°	13312.8	13296.1	13339.0	13474.0	13536.1
40°	12123.3	12123.3	12146.0	12280.9	12259.4
42.5°	11016.2	11121.2	11115.3	11153.5	11155.9
45°	10121.6	10140.7	10208.8	10146.7	10220.8
47.5°	9298.8	9266.5	9353.7	9282.0	9347.7
50°	8530.8	8474.7	8558.3	8480.7	8577.4
52.5°	7813.1	7752.2	7862.0	7783.2	7853.7
55°	7183.7	7149.0	7200.4	7200.4	7201.6
57.5°	6587.7	6580.5	6581.7	6629.5	6621.2
60°	6024.0	6052.7	6052.7	6086.1	6037.1
62.5°	5527.2	5537.9	5575.0	5594.1	5552.3
65°	5068.6	5065.0	5087.7	5143.8	5110.4
67.5°	4632.7	4647.0	4663.7	4722.2	4658.9
70°	4263.6	4260.0	4276.8	4315.0	4287.5
72.5°	3905.3	3898.2	3911.3	3930.4	3929.2
75°	3541.1	3553.0	3530.3	3554.2	3555.4
77.5°	3224.6	3222.2	3221.0	3209.1	3232.9
80°	2942.7	2940.3	2955.9	2924.8	2932.0
82.5°	2707.5	2703.9	2721.8	2680.0	2687.2
85°	2482.9	2488.9	2473.4	2465.0	2494.9
87.5°	2252.4	2236.9	2220.2	2226.2	2230.9
90°	1625.4	1546.6	1415.2	1526.3	1590.8
92.5°	1344.8	1383.0	1331.6	1322.1	1371.0
95°	1214.6	1225.3	1255.2	1196.7	1190.7
97.5°	1140.5	1166.8	1158.5	1120.2	1119.1
100°	1019.9	1034.3	1027.1	1012.8	1014.0
102.5°	912.4	943.5	910.1	902.9	913.6
105°	766.7	759.6	752.4	734.5	744.0
107.5°	532.7	539.8	524.3	520.7	536.2
110°	328.4	323.7	308.1	311.7	321.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	163.6	167.2	167.2	161.2	158.8
115°	74.0	72.9	72.9	69.3	71.7
117.5°	34.6	33.4	31.1	33.4	35.8
120°	27.5	28.7	26.3	27.5	29.9
122.5°	29.9	32.2	29.9	31.1	32.2
125°	33.4	34.6	33.4	33.4	34.6
127.5°	35.8	37.0	35.8	35.8	37.0
130°	38.2	39.4	38.2	39.4	39.4
132.5°	40.6	41.8	40.6	40.6	41.8
135°	43.0	44.2	43.0	43.0	44.2
137.5°	45.4	46.6	45.4	45.4	45.4
140°	47.8	47.8	46.6	47.8	46.6
142.5°	49.0	47.8	47.8	47.8	46.6
145°	47.8	46.6	47.8	46.6	46.6
147.5°	45.4	44.2	44.2	44.2	44.2
150°	40.6	40.6	39.4	40.6	40.6
152.5°	37.0	37.0	35.8	35.8	37.0
155°	33.4	34.6	33.4	33.4	33.4
157.5°	34.6	34.6	33.4	33.4	34.6
160°	34.6	34.6	33.4	33.4	34.6
162.5°	34.6	34.6	33.4	33.4	34.6
165°	35.8	34.6	34.6	34.6	34.6
167.5°	35.8	34.6	34.6	33.4	34.6
170°	35.8	35.8	34.6	33.4	34.6
172.5°	35.8	35.8	34.6	34.6	34.6
175°	34.6	34.6	34.6	34.6	35.8
177.5°	33.4	33.4	33.4	34.6	35.8
180°	34.6	34.6	34.6	34.6	34.6

(END OF REPORT)