

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: P381672

Luminaire Tested: **BMK-70-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: P381672
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-70-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: 68060.6 lumens
Efficiency: N/A
Efficacy: 135.9 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

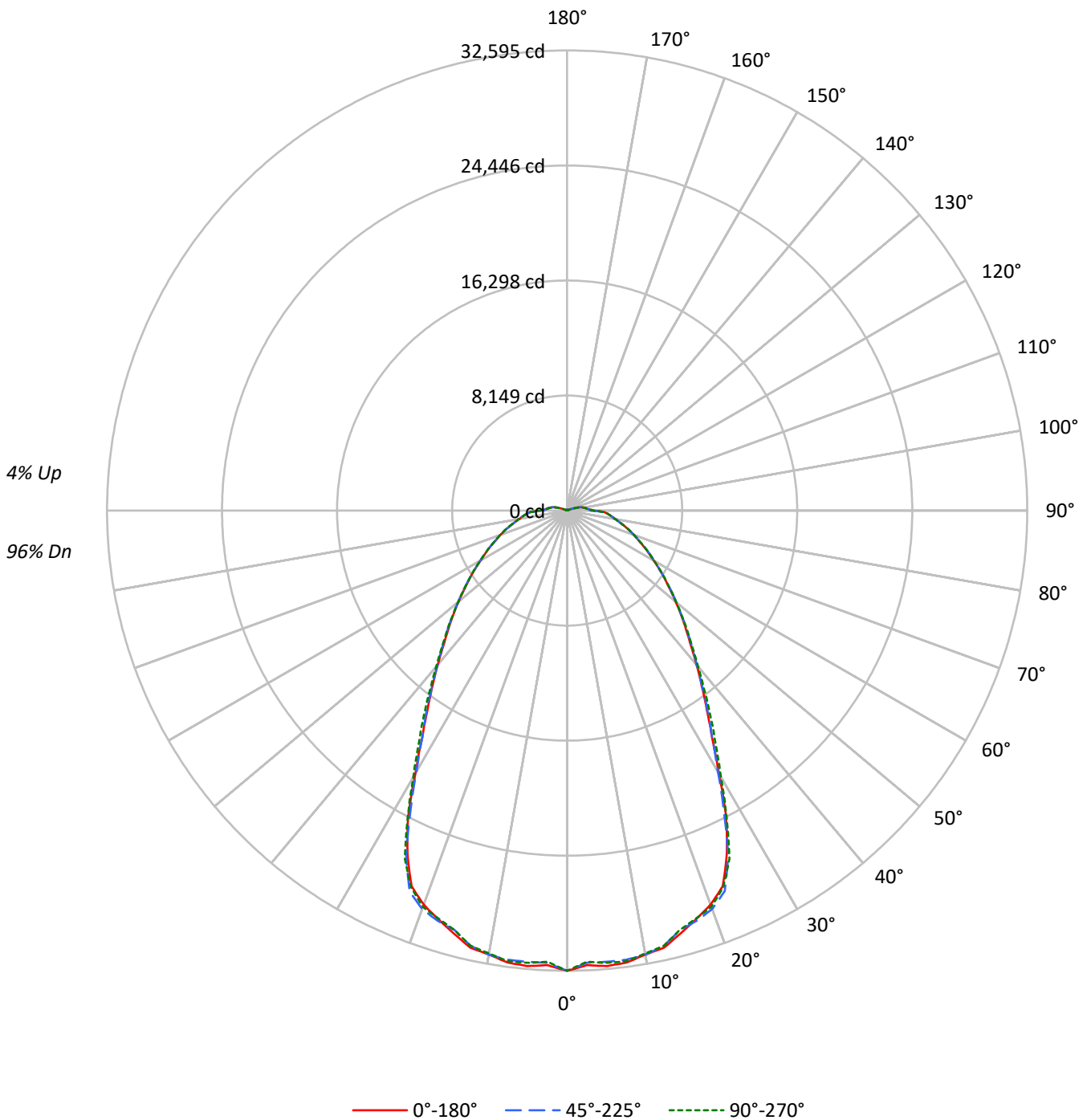
Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	251404	251404	251404
5°	248130	245847	246396
10°	244899	244996	244295
15°	239960	238123	238014
20°	233614	236266	234984
25°	215795	217482	219284
30°	178994	177800	181477
35°	149894	150810	153570
40°	130553	130797	132019
45°	116056	117056	117193
50°	105446	105787	106023
55°	97110	97336	97352
60°	90609	91039	90805
65°	86660	86987	87375
70°	85193	85456	85670
75°	85898	85636	86246
80°	91706	92117	91372
85°	109341	108918	109865



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3066.2	4.5
10°-20°	8735.9	12.8
20°-30°	12149.1	17.9
30°-40°	10952.1	16.1
40°-50°	9282.4	13.6
50°-60°	7597.0	11.2
60°-70°	5971.8	8.8
70°-80°	4441.5	6.5
80°-90°	3093.2	4.5
90°-100°	1601.0	2.4
100°-110°	895.8	1.3
110°-120°	131.1	0.2
120°-130°	35.4	0.1
130°-140°	39.4	0.1
140°-150°	33.9	0.0
150°-160°	19.3	0.0
160°-170°	11.5	0.0
170°-180°	3.9	0.0
0°-30°	23951.2	35.2
0°-40°	34903.3	51.3
0°-60°	51782.7	76.1
0°-90°	65289.3	95.9
90°-120°	2627.8	3.9
90°-150°	2736.5	4.0
90°-180°	2771.0	4.1
0°-180°	68060.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	32595	32595	32595	32595	32595	
5°	32383	32098	32085	32251	32157	###
15°	31013	30836	30775	30996	30761	8745
25°	26769	26844	26978	27228	27202	12098
35°	17250	17228	17356	17408	17673	10891
45°	11910	11933	12013	11940	12027	9243
55°	8453	8412	8473	8473	8474	7592
65°	5964	5960	5987	6053	6013	5936
75°	4167	4181	4154	4182	4184	4436
85°	2922	2929	2910	2901	2936	2495
90°	1913	1820	1665	1796	1872	1104
95°	1429	1442	1477	1408	1401	1134
105°	902	894	885	864	876	901
115°	87	86	86	82	84	134
125°	39	41	39	39	41	35
135°	51	52	51	51	52	39
145°	56	55	56	55	55	35
155°	39	41	39	39	39	20
165°	42	41	41	41	41	12
175°	41	41	41	41	42	4
180°	41	41	41	41	41	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	32595.1	32595.1	32595.1	32595.1	32595.1
2.5°	32228.3	32071.0	32059.7	32106.1	31983.8
5°	32382.9	32097.7	32085.0	32250.8	32156.7
7.5°	32284.6	32047.1	32086.4	32278.9	32190.4
10°	31927.6	31830.6	31940.3	32103.3	31848.9
12.5°	31707.0	31572.1	31572.1	31596.0	31583.3
15°	31012.7	30835.7	30775.2	30995.9	30761.2
17.5°	30356.5	30201.9	30466.1	30400.0	30301.6
20°	29698.8	29787.3	30036.0	29901.1	29873.0
22.5°	28802.2	28834.5	29170.4	29176.0	28879.5
25°	26768.7	26844.5	26978.0	27228.2	27201.5
27.5°	24374.0	24080.3	24067.6	24624.1	24449.9
30°	21483.2	21403.1	21339.9	21757.3	21781.2
32.5°	19113.8	19198.2	19109.6	19337.3	19549.5
35°	17250.4	17227.9	17355.8	17407.8	17673.4
37.5°	15665.2	15645.5	15696.1	15854.9	15928.0
40°	14265.5	14265.5	14292.2	14451.0	14425.7
42.5°	12962.7	13086.4	13079.4	13124.3	13127.2
45°	11910.1	11932.6	12012.7	11939.7	12026.8
47.5°	10941.9	10903.9	11006.5	10922.2	10999.5
50°	10038.2	9972.2	10070.6	9979.2	10093.1
52.5°	9193.6	9122.0	9251.3	9158.5	9241.4
55°	8453.0	8412.3	8472.7	8472.7	8474.1
57.5°	7751.8	7743.3	7744.8	7801.0	7791.1
60°	7088.5	7122.2	7122.2	7161.5	7103.9
62.5°	6503.9	6516.5	6560.1	6582.5	6533.4
65°	5964.2	5960.0	5986.7	6052.7	6013.4
67.5°	5451.3	5468.1	5487.8	5556.7	5482.2
70°	5017.0	5012.8	5032.5	5077.4	5045.1
72.5°	4595.4	4587.0	4602.4	4624.9	4623.5
75°	4166.8	4180.8	4154.1	4182.3	4183.7
77.5°	3794.4	3791.6	3790.2	3776.1	3804.2
80°	3462.7	3459.9	3478.2	3441.6	3450.1
82.5°	3185.9	3181.7	3202.7	3153.6	3162.0
85°	2921.7	2928.7	2910.4	2900.6	2935.7
87.5°	2650.4	2632.2	2612.5	2619.5	2625.1
90°	1912.6	1819.9	1665.3	1796.0	1871.9
92.5°	1582.4	1627.4	1566.9	1555.7	1613.3
95°	1429.2	1441.9	1477.0	1408.1	1401.1
97.5°	1342.1	1373.0	1363.2	1318.2	1316.8
100°	1200.1	1217.0	1208.6	1191.7	1193.1
102.5°	1073.7	1110.2	1070.9	1062.4	1075.1
105°	902.2	893.8	885.4	864.3	875.5
107.5°	626.8	635.2	616.9	612.7	631.0
110°	386.5	380.8	362.6	366.8	378.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	192.5	196.7	196.7	189.7	186.9
115°	87.1	85.7	85.7	81.5	84.3
117.5°	40.8	39.3	36.5	39.3	42.2
120°	32.3	33.7	30.9	32.3	35.1
122.5°	35.1	37.9	35.1	36.5	37.9
125°	39.3	40.8	39.3	39.3	40.8
127.5°	42.2	43.6	42.2	42.2	43.6
130°	45.0	46.4	45.0	46.4	46.4
132.5°	47.8	49.2	47.8	47.8	49.2
135°	50.6	52.0	50.6	50.6	52.0
137.5°	53.4	54.8	53.4	53.4	53.4
140°	56.2	56.2	54.8	56.2	54.8
142.5°	57.6	56.2	56.2	56.2	54.8
145°	56.2	54.8	56.2	54.8	54.8
147.5°	53.4	52.0	52.0	52.0	52.0
150°	47.8	47.8	46.4	47.8	47.8
152.5°	43.6	43.6	42.2	42.2	43.6
155°	39.3	40.8	39.3	39.3	39.3
157.5°	40.8	40.8	39.3	39.3	40.8
160°	40.8	40.8	39.3	39.3	40.8
162.5°	40.8	40.8	39.3	39.3	40.8
165°	42.2	40.8	40.8	40.8	40.8
167.5°	42.2	40.8	40.8	39.3	40.8
170°	42.2	42.2	40.8	39.3	40.8
172.5°	42.2	42.2	40.8	40.8	40.8
175°	40.8	40.8	40.8	40.8	42.2
177.5°	39.3	39.3	39.3	40.8	42.2
180°	40.8	40.8	40.8	40.8	40.8

(END OF REPORT)