

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: P381726

Luminaire Tested: **BMK-70-MCL-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: P381726
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-6)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-70-MCL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH MEDIUM CLEAR LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 68291.1 lumens
Efficiency: N/A
Efficacy: 136.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.41 / 1.39
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

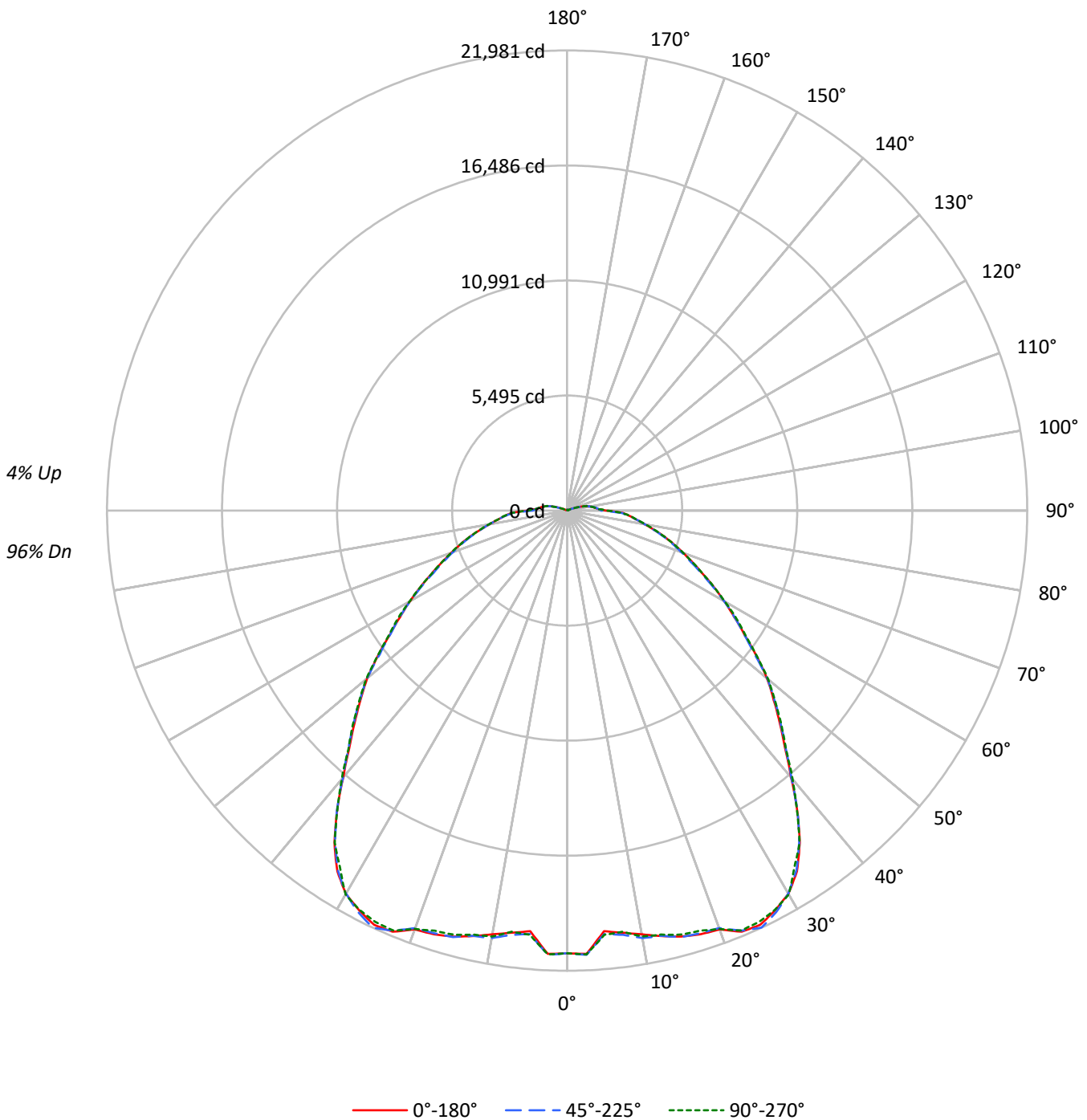
Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P381726

CATALOG NUMBER: BMK-70-MCL-UNV-L835-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P381726

CATALOG NUMBER: BMK-70-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	90	87	89	87	84	85	83	81	78
2	97	88	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	63	59	66	61	57	55
4	81	69	60	53	79	67	59	53	64	57	52	62	55	50	59	54	49	47
5	75	62	53	46	72	60	52	45	58	50	45	55	49	44	53	48	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	44	38	48	42	38	36
7	64	50	42	35	62	49	41	35	48	40	35	46	39	34	44	38	34	32
8	60	46	37	32	58	45	37	31	43	36	31	42	35	31	41	35	30	28
9	56	42	34	28	54	41	34	28	40	33	28	39	32	28	37	32	27	25
10	52	39	31	26	51	38	31	26	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	163077	163077	163077
5°	154492	155547	155892
10°	157662	159031	158460
15°	162976	163183	162247
20°	167421	166968	167289
25°	175997	177198	174773
30°	176092	176009	176454
35°	168371	167956	168200
40°	152289	152495	153383
45°	139925	140610	141063
50°	130927	131149	131680
55°	118922	118551	119471
60°	110853	110746	111195
65°	103792	102486	103875
70°	99869	98606	100037
75°	99110	97747	99021
80°	99376	99673	100938
85°	112391	111920	113918



TEST NUMBER: P381726

CATALOG NUMBER: BMK-70-MCL-UNV-L835-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1961.2	2.9
10°-20°	5960.2	8.7
20°-30°	9992.8	14.6
30°-40°	11985.4	17.6
40°-50°	11171.8	16.4
50°-60°	9318.2	13.6
60°-70°	7079.2	10.4
70°-80°	5049.8	7.4
80°-90°	3199.8	4.7
90°-100°	1536.9	2.3
100°-110°	800.1	1.2
110°-120°	108.5	0.2
120°-130°	32.4	0.0
130°-140°	36.0	0.1
140°-150°	30.2	0.0
150°-160°	16.2	0.0
160°-170°	9.2	0.0
170°-180°	3.1	0.0
0°-30°	17914.2	26.2
0°-40°	29899.6	43.8
0°-60°	50389.7	73.8
0°-90°	65718.5	96.2
90°-120°	2445.5	3.6
90°-150°	2544.1	3.7
90°-180°	2573.0	3.8
0°-180°	68291.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	21143	21143	21143	21143	21143	
5°	20162	20250	20300	20314	20345	###
15°	21063	21006	21090	21136	20969	5965
25°	21832	21877	21981	21821	21680	9987
35°	19377	19323	19329	19391	19357	11999
45°	14360	14398	14430	14447	14476	11129
55°	10352	10325	10319	10293	10400	9339
65°	7143	7020	7053	7066	7149	7130
75°	4808	4772	4742	4753	4803	5071
85°	3003	3003	2991	2978	3044	2607
90°	1856	1785	1634	1765	1886	1085
95°	1362	1415	1418	1376	1367	1073
105°	770	779	772	764	780	805
115°	62	66	68	65	66	106
125°	36	36	35	36	38	32
135°	46	46	46	46	48	36
145°	51	49	49	49	48	31
155°	34	34	32	32	34	17
165°	34	32	32	32	32	10
175°	31	32	31	32	34	3
180°	32	32	32	32	32	



TEST NUMBER: P381726

CATALOG NUMBER: BMK-70-MCL-UNV-L835-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	21143.3	21143.3	21143.3	21143.3	21143.3
2.5°	21195.3	21140.5	21240.3	21275.4	21220.6
5°	20162.4	20249.5	20300.1	20314.2	20345.1
7.5°	20338.0	20249.5	20436.4	20436.4	20291.7
10°	20554.5	20759.6	20732.9	20699.2	20658.5
12.5°	20820.1	20811.6	20808.8	20779.3	20745.6
15°	21063.2	21005.6	21089.9	21136.3	20969.0
17.5°	21217.8	21056.2	21168.6	21247.3	21043.5
20°	21283.8	21116.6	21226.2	21358.3	21267.0
22.5°	21778.5	21673.1	21716.7	21815.1	21712.5
25°	21831.9	21876.9	21980.9	21820.7	21680.1
27.5°	21522.7	21587.4	21628.1	21605.7	21496.0
30°	21134.9	21119.4	21125.0	21203.7	21178.4
32.5°	20435.0	20346.5	20378.8	20290.3	20198.9
35°	19376.8	19323.4	19329.0	19390.8	19357.1
37.5°	18061.4	17979.9	18067.0	18112.0	18036.1
40°	16640.6	16761.5	16663.1	16695.4	16760.1
42.5°	15410.9	15520.5	15470.0	15514.9	15462.9
45°	14359.7	14397.7	14430.0	14446.9	14476.4
47.5°	13383.0	13423.8	13449.1	13467.4	13468.8
50°	12463.9	12448.5	12485.0	12390.9	12535.6
52.5°	11394.5	11293.3	11289.1	11258.2	11421.2
55°	10351.7	10325.0	10319.4	10292.7	10399.5
57.5°	9470.6	9473.4	9487.4	9495.9	9585.8
60°	8672.3	8597.9	8663.9	8644.2	8699.0
62.5°	7893.8	7805.2	7837.6	7836.2	7909.2
65°	7143.3	7019.7	7053.4	7066.0	7149.0
67.5°	6491.3	6425.2	6387.3	6440.7	6501.1
70°	5881.3	5836.4	5806.9	5842.0	5891.2
72.5°	5329.0	5265.8	5267.2	5260.2	5347.3
75°	4807.7	4772.5	4741.6	4752.9	4803.4
77.5°	4249.7	4294.7	4234.3	4256.8	4279.3
80°	3752.3	3802.8	3763.5	3759.3	3811.3
82.5°	3358.8	3363.0	3361.6	3337.7	3354.5
85°	3003.2	3003.2	2990.6	2977.9	3044.0
87.5°	2675.8	2606.9	2592.8	2602.7	2642.0
90°	1856.5	1784.8	1634.4	1765.1	1886.0
92.5°	1529.0	1555.7	1516.4	1516.4	1533.2
95°	1361.8	1415.2	1418.0	1375.8	1367.4
97.5°	1252.2	1285.9	1273.2	1250.8	1263.4
100°	1118.6	1129.9	1118.6	1110.2	1114.4
102.5°	997.8	996.4	990.8	980.9	1007.6
105°	770.1	778.6	771.5	764.5	780.0
107.5°	539.6	532.6	521.4	522.8	529.8
110°	327.4	328.8	309.2	314.8	334.5



TEST NUMBER: P381726

CATALOG NUMBER: BMK-70-MCL-UNV-L835-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	149.0	157.4	163.0	154.6	158.8
115°	61.8	66.1	67.5	64.6	66.1
117.5°	32.3	32.3	30.9	32.3	35.1
120°	29.5	30.9	28.1	29.5	32.3
122.5°	32.3	33.7	32.3	33.7	35.1
125°	36.5	36.5	35.1	36.5	37.9
127.5°	39.3	39.3	37.9	39.3	40.8
130°	40.8	42.2	42.2	42.2	42.2
132.5°	43.6	45.0	43.6	45.0	45.0
135°	46.4	46.4	46.4	46.4	47.8
137.5°	49.2	49.2	49.2	49.2	49.2
140°	50.6	50.6	50.6	50.6	50.6
142.5°	52.0	50.6	50.6	50.6	49.2
145°	50.6	49.2	49.2	49.2	47.8
147.5°	46.4	46.4	45.0	46.4	45.0
150°	42.2	40.8	40.8	40.8	40.8
152.5°	36.5	36.5	35.1	36.5	36.5
155°	33.7	33.7	32.3	32.3	33.7
157.5°	33.7	33.7	32.3	32.3	33.7
160°	33.7	33.7	32.3	32.3	32.3
162.5°	33.7	33.7	32.3	32.3	32.3
165°	33.7	32.3	32.3	32.3	32.3
167.5°	33.7	32.3	32.3	32.3	32.3
170°	33.7	32.3	32.3	32.3	32.3
172.5°	32.3	32.3	32.3	32.3	32.3
175°	30.9	32.3	30.9	32.3	33.7
177.5°	30.9	30.9	30.9	32.3	33.7
180°	32.3	32.3	32.3	32.3	32.3

(END OF REPORT)