

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: P381708

Luminaire Tested: **BMK-70-MFL-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: P381708
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-5)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-70-MFL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH MEDIUM FROSTED LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 66922.2 lumens
Efficiency: N/A
Efficacy: 133.7 lumens/watt
Spacing Criteria (0/90/45): 1.36 / 1.36 / 1.38
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

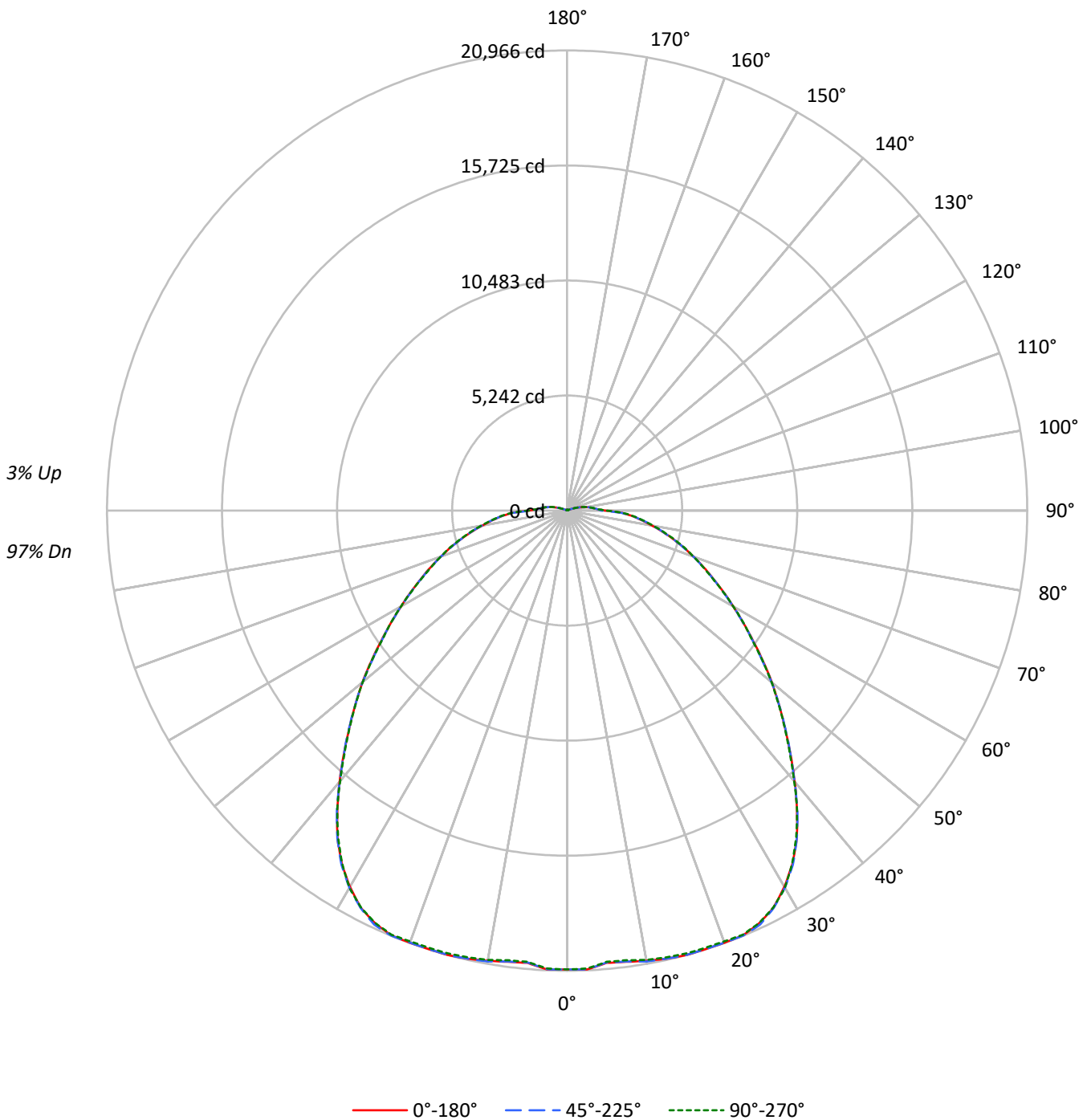
Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	99	99	99	97
1	107	101	97	92	104	99	95	91	94	90	87	89	87	84	85	83	81	78
2	97	88	81	75	94	86	79	74	82	76	71	78	73	69	75	71	67	65
3	88	77	69	62	85	76	68	61	72	65	60	69	63	58	66	61	57	55
4	81	69	60	53	78	67	59	52	64	57	51	61	55	50	59	53	49	47
5	74	61	52	45	72	60	51	45	57	50	44	55	49	43	53	47	43	40
6	69	55	46	40	67	54	46	39	52	44	39	50	43	38	48	42	38	35
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	33	31
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	40	34	30	28
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	37	31	27	25
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	161236	161236	161236
5°	158498	158370	158154
10°	159776	160013	159442
15°	162227	162206	161662
20°	164792	164758	164305
25°	167173	167774	167049
30°	164910	165285	165320
35°	158531	158543	158079
40°	147609	147571	147236
45°	136804	136983	136668
50°	127872	127770	127622
55°	118779	118472	118262
60°	111735	111645	111735
65°	106714	106489	106060
70°	103951	103714	104023
75°	102760	102847	103804
80°	103841	104773	105740
85°	112391	112919	114865



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1981.2	3.0
10°-20°	5929.7	8.9
20°-30°	9528.3	14.2
30°-40°	11344.5	17.0
40°-50°	10866.9	16.2
50°-60°	9271.4	13.9
60°-70°	7292.2	10.9
70°-80°	5292.4	7.9
80°-90°	3234.2	4.8
90°-100°	1364.5	2.0
100°-110°	612.6	0.9
110°-120°	92.7	0.1
120°-130°	28.0	0.0
130°-140°	31.2	0.0
140°-150°	26.5	0.0
150°-160°	14.6	0.0
160°-170°	8.5	0.0
170°-180°	2.8	0.0
0°-30°	17439.3	26.1
0°-40°	28783.8	43.0
0°-60°	48922.0	73.1
0°-90°	64740.8	96.7
90°-120°	2069.8	3.1
90°-150°	2155.6	3.2
90°-180°	2181.0	3.3
0°-180°	66922.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	20905	20905	20905	20905	20905	
5°	20685	20643	20668	20692	20640	###
15°	20966	20895	20964	20994	20893	5934
25°	20737	20732	20812	20794	20722	9523
35°	18244	18218	18246	18265	18192	11341
45°	14039	14084	14058	14063	14025	10866
55°	10339	10343	10312	10303	10294	9289
65°	7344	7328	7329	7313	7299	7310
75°	4985	5010	4989	4982	5035	5280
85°	3003	3048	3017	3016	3069	2632
90°	1730	1733	1567	1703	1769	1011
95°	1217	1244	1230	1221	1234	932
105°	564	578	573	575	582	604
115°	60	63	63	62	60	90
125°	31	32	31	31	32	28
135°	41	41	41	41	41	31
145°	44	44	44	44	42	27
155°	30	31	30	30	30	15
165°	31	30	30	30	30	9
175°	30	30	30	30	31	3
180°	30	30	30	30	30	



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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	20904.6	20904.6	20904.6	20904.6	20904.6
2.5°	20927.1	20873.7	20918.6	20934.1	20877.9
5°	20685.3	20643.2	20668.5	20692.4	20640.4
7.5°	20735.9	20669.9	20720.5	20733.1	20658.6
10°	20830.1	20827.3	20861.0	20847.0	20786.5
12.5°	20907.4	20875.1	20911.6	20917.2	20851.2
15°	20966.4	20894.7	20963.6	20994.5	20893.3
17.5°	20948.1	20873.7	20952.4	20994.5	20889.1
20°	20949.6	20861.0	20945.3	20976.3	20887.7
22.5°	20942.5	20889.1	20960.8	20995.9	20915.8
25°	20737.3	20731.7	20811.8	20793.6	20721.9
27.5°	20381.8	20352.3	20398.7	20416.9	20367.7
30°	19792.9	19773.3	19837.9	19873.1	19842.1
32.5°	19101.5	19098.7	19139.5	19108.5	19074.8
35°	18244.3	18217.6	18245.7	18265.3	18192.3
37.5°	17198.7	17201.5	17238.0	17183.2	17211.3
40°	16129.2	16146.1	16125.0	16109.5	16088.4
42.5°	15062.5	15078.0	15063.9	15059.7	15010.5
45°	14039.4	14084.4	14057.7	14063.3	14025.4
47.5°	13086.6	13100.7	13097.9	13076.8	13069.8
50°	12173.1	12163.3	12163.3	12111.3	12149.3
52.5°	11241.4	11244.2	11188.0	11171.1	11214.7
55°	10339.2	10343.4	10312.5	10302.6	10294.2
57.5°	9507.2	9500.2	9507.2	9477.7	9526.9
60°	8741.3	8737.1	8734.2	8709.0	8741.3
62.5°	8027.4	8013.3	8006.3	7992.2	8007.7
65°	7344.4	7327.5	7328.9	7313.4	7299.4
67.5°	6720.4	6707.7	6700.7	6697.9	6683.8
70°	6121.7	6113.3	6107.7	6093.6	6125.9
72.5°	5548.3	5552.5	5532.9	5520.2	5587.7
75°	4984.8	5010.1	4989.0	4982.0	5035.4
77.5°	4442.3	4484.5	4459.2	4456.4	4501.3
80°	3920.9	3970.1	3956.1	3943.4	3992.6
82.5°	3447.3	3502.1	3482.5	3465.6	3509.2
85°	3003.2	3048.2	3017.3	3015.9	3069.3
87.5°	2519.8	2560.5	2494.5	2529.6	2574.6
90°	1730.0	1732.8	1567.0	1703.3	1769.3
92.5°	1395.5	1422.2	1391.3	1398.3	1412.4
95°	1217.0	1243.7	1229.7	1221.2	1233.9
97.5°	1056.8	1079.3	1065.3	1063.8	1075.1
100°	896.6	912.1	899.4	903.6	912.1
102.5°	737.8	751.9	744.8	747.6	758.9
105°	563.5	577.6	573.4	574.8	581.8
107.5°	400.5	407.6	400.5	403.3	413.2
110°	250.2	257.2	245.9	253.0	265.6



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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	129.3	137.7	140.5	137.7	133.5
115°	60.4	63.2	63.2	61.8	60.4
117.5°	29.5	29.5	28.1	29.5	29.5
120°	25.3	26.7	25.3	25.3	26.7
122.5°	28.1	29.5	28.1	28.1	29.5
125°	30.9	32.3	30.9	30.9	32.3
127.5°	33.7	35.1	33.7	33.7	35.1
130°	36.5	36.5	36.5	36.5	36.5
132.5°	37.9	39.3	37.9	37.9	39.3
135°	40.8	40.8	40.8	40.8	40.8
137.5°	42.2	42.2	42.2	42.2	43.6
140°	43.6	43.6	43.6	43.6	43.6
142.5°	45.0	43.6	43.6	45.0	43.6
145°	43.6	43.6	43.6	43.6	42.2
147.5°	40.8	40.8	40.8	40.8	40.8
150°	36.5	36.5	36.5	36.5	36.5
152.5°	32.3	32.3	32.3	32.3	32.3
155°	29.5	30.9	29.5	29.5	29.5
157.5°	30.9	30.9	29.5	29.5	29.5
160°	30.9	30.9	29.5	29.5	29.5
162.5°	30.9	30.9	29.5	29.5	29.5
165°	30.9	29.5	29.5	29.5	29.5
167.5°	30.9	29.5	29.5	29.5	29.5
170°	30.9	30.9	29.5	29.5	29.5
172.5°	29.5	30.9	29.5	29.5	29.5
175°	29.5	29.5	29.5	29.5	30.9
177.5°	28.1	28.1	29.5	29.5	30.9
180°	29.5	29.5	29.5	29.5	29.5

(END OF REPORT)