

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: P295517

Luminaire Tested: **BMK-36-MCL-UNV-L850-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: P295517
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-36-MCL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM CLEAR LENS
Light Source: (528) 80 CRI 5000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 36394.0 lumens
Efficiency: N/A
Efficacy: 149.8 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

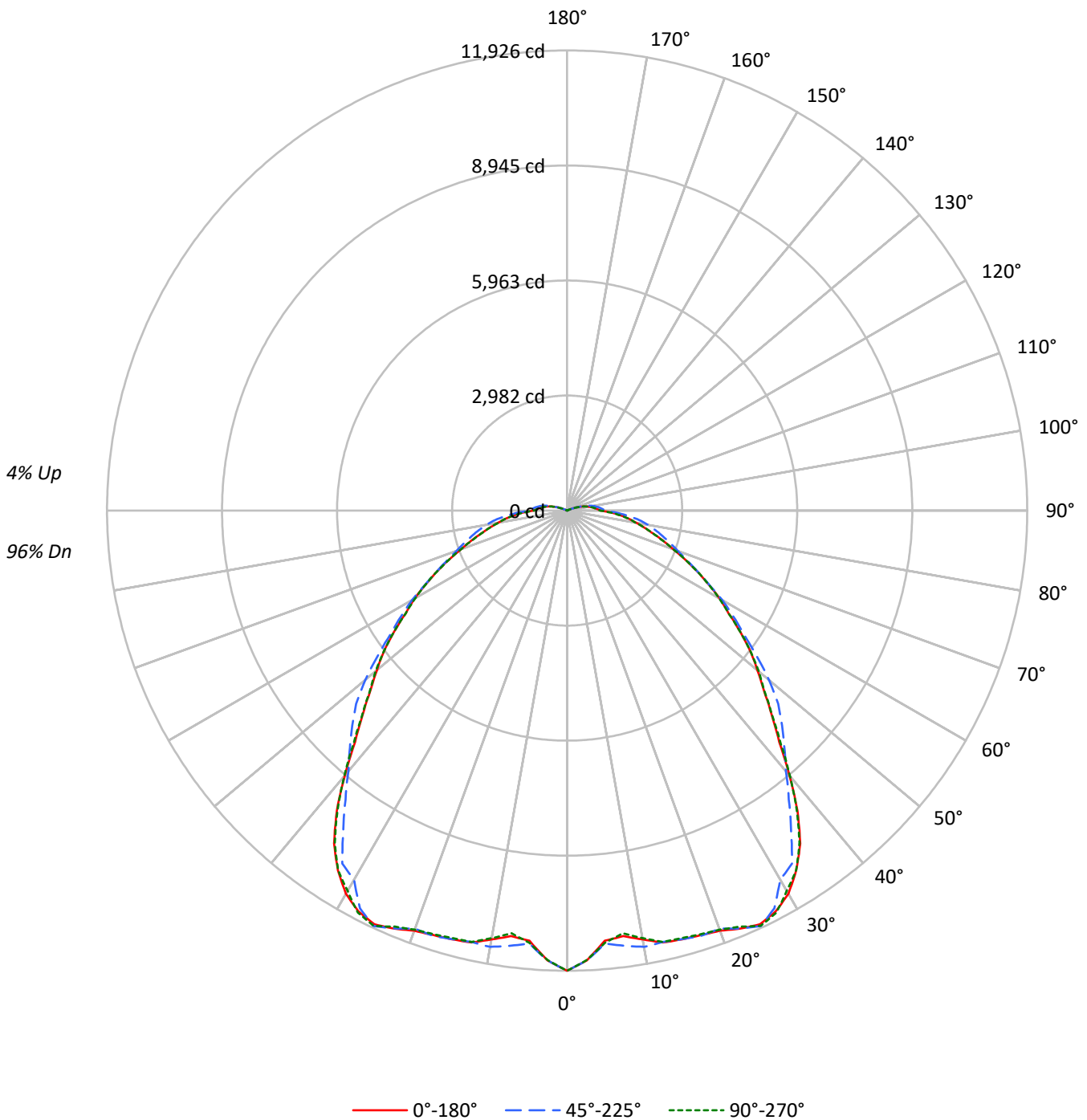
Input Watts (W): 243
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P295517

CATALOG NUMBER: BMK-36-MCL-UNV-L850-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P295517

CATALOG NUMBER: BMK-36-MCL-UNV-L850-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	96				
1	107	102	97	93	104	99	95	91	94	91	88	90	87	84	86	83	81	79				
2	97	89	82	76	94	87	80	75	82	77	72	79	74	70	75	71	68	66				
3	89	78	70	63	86	76	69	62	73	66	61	69	64	59	66	62	58	55				
4	81	69	61	54	79	68	60	53	65	58	52	62	56	51	59	54	50	48				
5	75	62	53	46	73	61	52	46	58	51	45	56	49	44	54	48	44	41				
6	69	56	47	41	67	55	46	40	53	45	40	51	44	39	49	43	38	36				
7	64	51	42	36	62	50	42	36	48	41	35	46	40	35	45	39	34	32				
8	60	46	38	32	58	46	37	32	44	37	31	42	36	31	41	35	31	29				
9	56	43	34	29	54	42	34	29	40	33	28	39	33	28	38	32	28	26				
10	52	39	31	26	51	39	31	26	37	30	26	36	30	25	35	29	25	23				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	91939	91939	91939
5°	85713	86261	86104
10°	86520	88020	86263
15°	88959	88925	88722
20°	91080	90644	90863
25°	95330	95730	95660
30°	95500	91975	94783
35°	91485	87859	91181
40°	82052	80690	82186
45°	73021	76689	73234
50°	67622	71713	68005
55°	62824	64165	62874
60°	58376	59272	58134
65°	53913	54061	53871
70°	49577	51709	49752
75°	47466	52850	47616
80°	48036	56420	47610
85°	51496	59471	51279



TEST NUMBER: P295517

CATALOG NUMBER: BMK-36-MCL-UNV-L850-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1083.3	3.0
10°-20°	3265.6	9.0
20°-30°	5396.3	14.8
30°-40°	6422.6	17.6
40°-50°	5990.0	16.5
50°-60°	4991.6	13.7
60°-70°	3734.6	10.3
70°-80°	2593.0	7.1
80°-90°	1571.6	4.3
90°-100°	840.9	2.3
100°-110°	437.1	1.2
110°-120°	66.4	0.2
120°-130°	1.1	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°	9745.2	26.8
0°-40°	16167.7	44.4
0°-60°	27149.3	74.6
0°-90°	35048.5	96.3
90°-120°	1344.4	3.7
90°-150°	1345.5	3.7
90°-180°	1345.0	3.7
0°-180°	36394.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	11926	11926	11926	11926	11926	
5°	11192	11275	11263	11247	11243	###
15°	11503	11582	11498	11555	11472	3259
25°	11831	11825	11881	11847	11872	5414
35°	10534	10361	10116	10367	10498	6504
45°	7497	7763	7874	7776	7519	5832
55°	5471	5557	5588	5562	5476	4900
65°	3712	3754	3722	3753	3709	3680
75°	2304	2435	2565	2439	2311	2467
85°	1376	1416	1590	1416	1371	1215
90°	870	928	974	921	857	502
95°	715	762	852	758	723	561
105°	401	409	457	404	404	420
115°	38	44	57	45	39	64
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: P295517

CATALOG NUMBER: BMK-36-MCL-UNV-L850-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	11926.1	11926.1	11926.1	11926.1	11926.1
2.5°	11667.7	11677.9	11666.2	11635.6	11657.5
5°	11191.8	11275.0	11263.4	11247.3	11242.9
7.5°	11123.2	11248.8	11374.3	11237.1	11047.3
10°	11285.3	11410.8	11480.9	11400.6	11251.7
12.5°	11467.7	11461.9	11454.6	11448.7	11448.7
15°	11502.8	11581.6	11498.4	11555.3	11472.1
17.5°	11534.9	11591.8	11555.3	11583.0	11510.1
20°	11584.5	11642.9	11529.0	11615.2	11556.8
22.5°	11726.1	11768.4	11721.7	11764.0	11672.1
25°	11831.2	11825.4	11880.8	11847.3	11872.1
27.5°	11710.0	11673.5	11623.9	11612.2	11745.1
30°	11467.7	11272.1	11044.4	11229.8	11381.6
32.5°	11054.6	11064.8	10847.3	11078.0	11048.8
35°	10533.5	10361.2	10116.0	10367.1	10498.5
37.5°	9803.6	9673.7	9438.7	9672.2	9774.4
40°	8970.1	8992.0	8821.2	8987.6	8984.7
42.5°	8135.1	8349.7	8332.2	8314.7	8197.9
45°	7497.2	7762.9	7873.8	7776.0	7519.1
47.5°	6922.1	7292.9	7415.5	7295.8	6938.1
50°	6440.4	6685.6	6830.1	6684.1	6476.9
52.5°	5980.6	6066.7	6186.4	6093.0	5987.9
55°	5471.1	5557.2	5587.9	5561.6	5475.5
57.5°	4964.6	5100.3	5106.2	5090.1	4961.7
60°	4569.0	4624.5	4639.1	4643.4	4550.0
62.5°	4115.0	4190.9	4138.4	4190.9	4125.2
65°	3712.1	3754.5	3722.3	3753.0	3709.2
67.5°	3297.6	3414.3	3363.2	3408.5	3307.8
70°	2920.9	3069.8	3046.5	3072.8	2931.2
72.5°	2611.5	2742.9	2796.9	2732.6	2598.3
75°	2303.5	2434.8	2564.8	2439.2	2310.8
77.5°	2059.7	2159.0	2342.9	2167.7	2056.8
80°	1814.5	1906.4	2131.2	1899.1	1798.4
82.5°	1615.9	1658.3	1884.5	1667.0	1607.2
85°	1376.5	1415.9	1589.7	1415.9	1370.7
87.5°	1131.3	1160.5	1275.8	1175.1	1115.2
90°	870.0	928.4	973.6	921.1	856.9
92.5°	795.6	837.9	916.7	830.6	789.7
95°	715.3	762.0	852.5	757.6	722.6
97.5°	655.4	678.8	767.8	677.3	651.0
100°	581.0	604.3	694.8	597.0	572.2
102.5°	494.9	508.0	591.2	512.4	496.3
105°	401.4	408.7	456.9	404.3	404.3
107.5°	299.2	294.9	310.9	290.5	297.8
110°	192.7	179.5	194.1	179.5	195.6



TEST NUMBER: P295517

CATALOG NUMBER: BMK-36-MCL-UNV-L850-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	105.1	94.9	113.9	96.3	103.6
115°	38.0	43.8	56.9	45.3	39.4
117.5°	10.2	17.5	20.4	17.5	10.2
120°	8.8	10.2	8.8	10.2	8.8
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)