

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: P294517

Luminaire Tested: **BMK-36-WCL-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: P294517
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1903-198-5)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-36-WCL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH WIDE 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: 37083.0 lumens
Efficiency: N/A
Efficacy: 152.6 lumens/watt
Spacing Criteria (0/90/45): 1.8 / 1.79 / 1.79
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

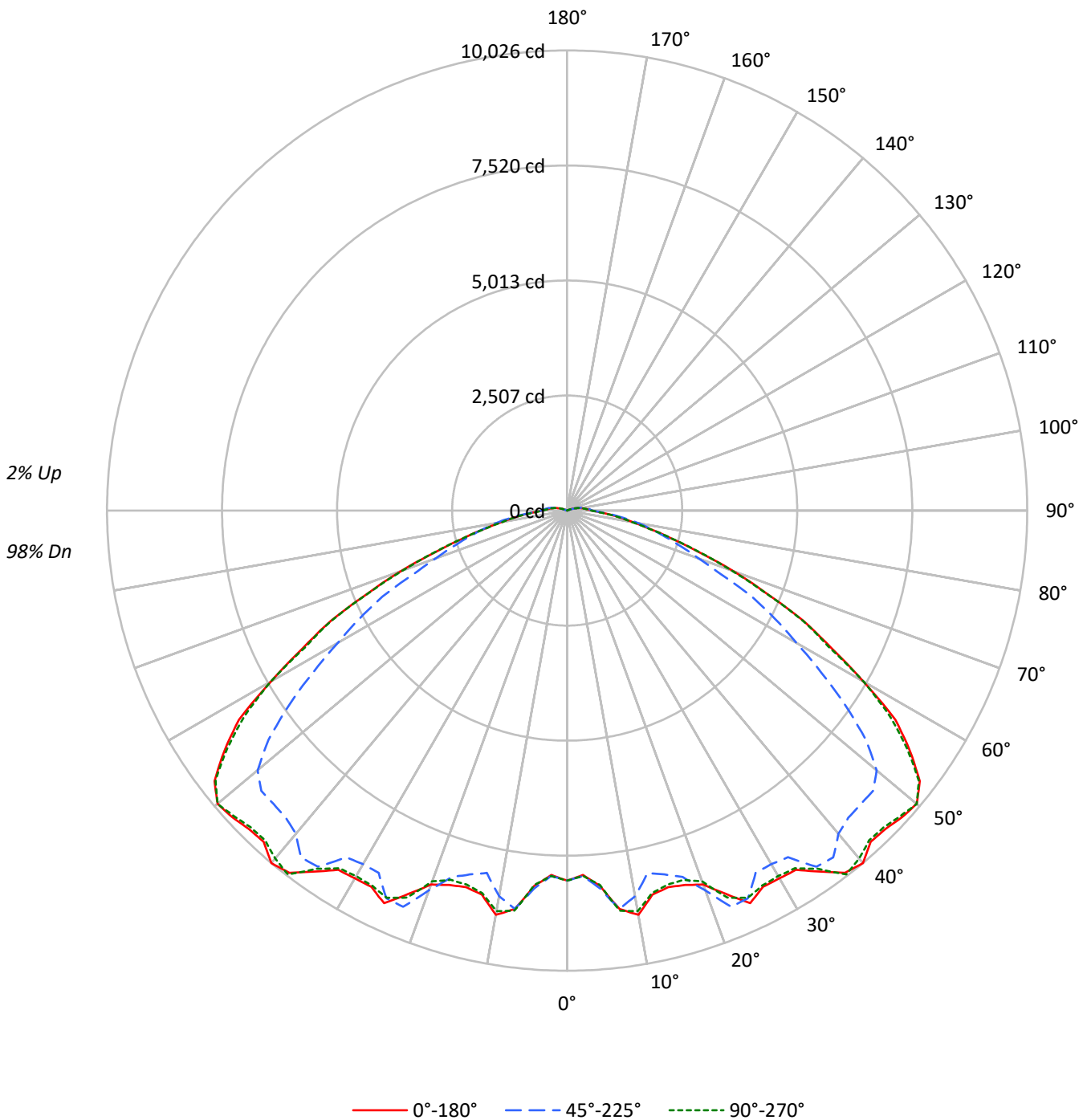
Input Watts (W): 243
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83	80
2	97	88	81	75	94	86	80	74	82	77	72	79	74	70	75	71	68	66
3	88	77	68	61	85	75	67	60	72	65	59	68	63	58	66	61	56	54
4	80	67	58	51	77	66	57	50	63	55	49	60	54	48	58	52	47	45
5	73	59	50	43	71	58	49	42	56	48	42	53	46	41	51	45	40	38
6	67	53	43	37	65	52	43	36	50	42	36	48	41	35	46	40	35	33
7	62	47	38	32	60	46	38	32	45	37	31	43	36	31	41	35	30	28
8	57	43	34	28	55	42	34	28	41	33	27	39	32	27	38	31	27	25
9	53	39	30	25	51	38	30	24	37	29	24	36	29	24	35	28	24	22
10	50	36	27	22	48	35	27	22	34	27	22	33	26	21	32	26	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	62161	62161	62161
5°	62845	63300	62686
10°	68558	65393	67943
15°	65689	63484	65253
20°	68159	69233	67575
25°	76050	75093	75021
30°	77042	74050	76572
35°	83366	82283	82722
40°	91715	84108	90519
45°	95543	88080	95022
50°	104369	92426	104400
55°	104662	85052	103844
60°	95243	73766	95319
65°	82472	64528	82255
70°	65230	51720	64573
75°	48591	45593	48898
80°	38527	41749	37661
85°	33778	35663	32888



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	809.9	2.2
10°-20°	2382.3	6.4
20°-30°	4165.6	11.2
30°-40°	5931.9	16.0
40°-50°	7342.0	19.8
50°-60°	7303.4	19.7
60°-70°	4950.3	13.3
70°-80°	2454.7	6.6
80°-90°	1023.9	2.8
90°-100°	481.8	1.3
100°-110°	209.4	0.6
110°-120°	27.1	0.1
120°-130°	0.7	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°	7357.7	19.8
0°-40°	13289.6	35.8
0°-60°	27935.0	75.3
0°-90°	36363.9	98.1
90°-120°	718.4	1.9
90°-150°	719.1	1.9
90°-180°	719.0	1.9
0°-180°	37083.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8063	8063	8063	8063	8063	
5°	8206	8173	8265	8209	8185	815
15°	8494	8188	8209	8203	8438	2437
25°	9438	8874	9320	8838	9311	4252
35°	9599	9628	9474	9652	9524	6053
45°	9810	9510	9043	9474	9756	7643
55°	9115	8274	7407	8212	9043	8048
65°	5678	4936	4443	4957	5664	5561
75°	2358	2207	2213	2230	2373	2600
85°	903	879	953	876	879	851
90°	540	576	549	570	532	306
95°	413	442	460	437	410	317
105°	199	190	184	193	199	211
115°	15	18	21	18	15	27
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



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8063.3	8063.3	8063.3	8063.3	8063.3
2.5°	7944.5	7977.2	7965.3	7953.4	7965.3
5°	8205.8	8173.2	8265.2	8208.8	8185.1
7.5°	8755.3	8675.1	8749.3	8678.1	8790.9
10°	8942.4	8808.7	8529.6	8776.1	8862.2
12.5°	8571.1	8440.5	8087.0	8464.2	8535.5
15°	8493.9	8188.0	8208.8	8202.9	8437.5
17.5°	8550.4	8185.1	8369.2	8191.0	8437.5
20°	8669.1	8505.8	8805.8	8511.7	8594.9
22.5°	9043.4	8900.8	9343.3	8894.9	9126.5
25°	9438.4	8874.1	9319.6	8838.4	9310.6
27.5°	9242.3	8927.5	8897.8	8891.9	9209.7
30°	9251.2	9025.5	8891.9	9049.3	9194.8
32.5°	9280.9	9206.7	8957.2	9239.4	9239.4
35°	9598.7	9628.4	9474.0	9652.2	9524.5
37.5°	9946.2	9625.5	9524.5	9634.4	9993.7
40°	10026.4	9462.1	9194.8	9450.2	9895.7
42.5°	9788.8	9536.4	9073.1	9506.7	9741.3
45°	9809.6	9509.6	9043.4	9474.0	9756.1
47.5°	9892.7	9690.8	9040.4	9661.1	9848.2
50°	9940.3	9331.4	8802.8	9328.5	9943.2
52.5°	9684.9	8885.9	8199.9	8874.1	9655.2
55°	9114.6	8274.1	7406.9	8211.8	9043.4
57.5°	8479.1	7570.3	6563.5	7519.8	8342.5
60°	7454.5	6688.2	5773.5	6676.3	7460.4
62.5°	6492.2	5960.6	5105.3	5942.8	6423.9
65°	5678.5	4936.0	4443.0	4956.8	5663.6
67.5°	4680.6	4104.4	3620.3	4107.4	4653.8
70°	3843.1	3439.1	3047.1	3412.4	3804.4
72.5°	3014.5	2785.8	2595.7	2776.9	3023.4
75°	2358.1	2206.6	2212.6	2230.4	2373.0
77.5°	1844.3	1767.1	1885.9	1776.0	1829.5
80°	1455.3	1413.7	1577.0	1413.7	1422.6
82.5°	1158.3	1119.7	1250.3	1122.6	1155.3
85°	902.9	879.1	953.3	876.1	879.1
87.5°	677.1	689.0	697.9	692.0	659.3
90°	540.5	576.2	549.4	570.2	531.6
92.5°	475.2	504.9	504.9	513.8	463.3
95°	412.8	442.5	460.3	436.6	409.8
97.5°	359.4	389.1	409.8	389.1	359.4
100°	308.9	329.7	350.4	323.7	302.9
102.5°	258.4	267.3	273.2	267.3	255.4
105°	199.0	190.1	184.1	193.0	199.0
107.5°	139.6	130.7	109.9	130.7	145.5
110°	83.2	77.2	65.3	77.2	89.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	41.6	38.6	38.6	41.6	44.5
115°	14.8	17.8	20.8	17.8	14.8
117.5°	5.9	8.9	8.9	8.9	5.9
120°	5.9	5.9	5.9	5.9	5.9
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)