

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: P294504

Luminaire Tested: **BMK-24-WCL-UNV-L840-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: P294504
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-24-WCL-UNV-L840-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH WIDE CLEAR LENS
Light Source: (528) 80 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25096.0 lumens
Efficiency: N/A
Efficacy: 161.4 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

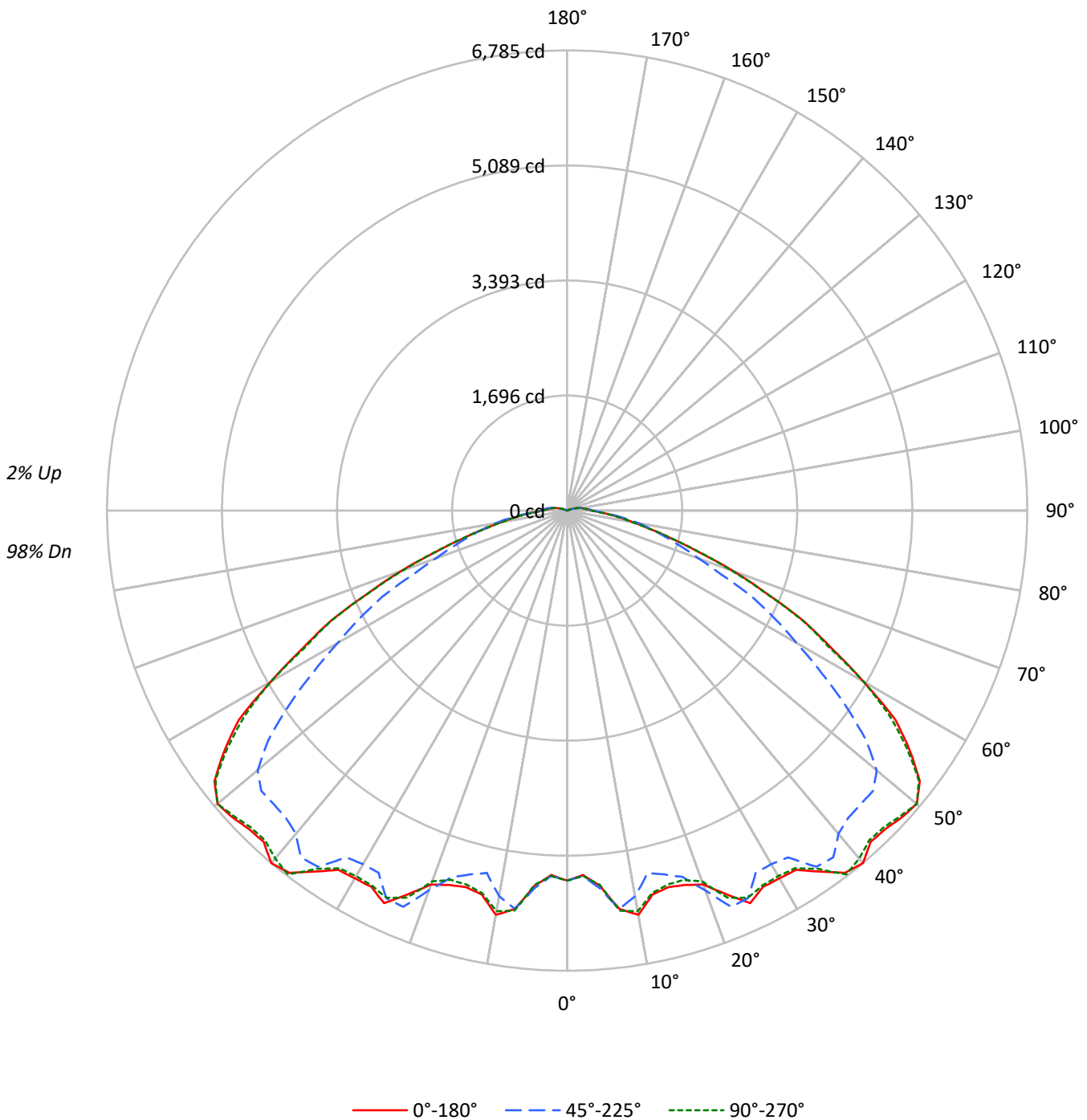
Input Watts (W): 155.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	42067	42067	42067
5°	42530	42838	42423
10°	46397	44255	45981
15°	44456	42963	44160
20°	46127	46854	45732
25°	51467	50819	50771
30°	52139	50113	51820
35°	56419	55685	55982
40°	62068	56920	61259
45°	64659	59608	64306
50°	70632	62549	70653
55°	70830	57560	70276
60°	64456	49921	64507
65°	55812	43669	55667
70°	44144	35001	43701
75°	32885	30855	33091
80°	26071	28255	25486
85°	22858	24137	22255



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	548.1	2.2
10°-20°	1612.2	6.4
20°-30°	2819.1	11.2
30°-40°	4014.4	16.0
40°-50°	4968.7	19.8
50°-60°	4942.6	19.7
60°-70°	3350.1	13.3
70°-80°	1661.2	6.6
80°-90°	692.9	2.8
90°-100°	326.1	1.3
100°-110°	141.7	0.6
110°-120°	18.4	0.1
120°-130°	0.5	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°	4979.3	19.8
0°-40°	8993.7	35.8
0°-60°	18905.0	75.3
0°-90°	24609.3	98.1
90°-120°	486.2	1.9
90°-150°	486.7	1.9
90°-180°	487.0	1.9
0°-180°	25096.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5457	5457	5457	5457	5457	
5°	5553	5531	5594	5555	5539	551
15°	5748	5541	5555	5551	5710	1649
25°	6387	6006	6307	5981	6301	2877
35°	6496	6516	6412	6532	6446	4096
45°	6639	6436	6120	6412	6602	5172
55°	6168	5600	5013	5557	6120	5447
65°	3843	3340	3007	3354	3833	3763
75°	1596	1493	1497	1509	1606	1760
85°	611	595	645	593	595	576
90°	366	390	372	386	360	207
95°	279	300	312	296	277	215
105°	135	129	125	131	135	143
115°	10	12	14	12	10	18
125°	0	0	0	0	0	0
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°	5456.8	5456.8	5456.8	5456.8	5456.8
2.5°	5376.5	5398.6	5390.5	5382.5	5390.5
5°	5553.3	5531.2	5593.5	5555.3	5539.3
7.5°	5925.2	5870.9	5921.1	5872.9	5949.3
10°	6051.8	5961.3	5772.4	5939.2	5997.5
12.5°	5800.5	5712.1	5472.9	5728.2	5776.4
15°	5748.3	5541.3	5555.3	5551.3	5710.1
17.5°	5786.5	5539.3	5663.9	5543.3	5710.1
20°	5866.9	5756.3	5959.3	5760.3	5816.6
22.5°	6120.1	6023.6	6323.1	6019.6	6176.4
25°	6387.4	6005.5	6307.0	5981.4	6301.0
27.5°	6254.8	6041.7	6021.6	6017.6	6232.7
30°	6260.8	6108.1	6017.6	6124.1	6222.6
32.5°	6280.9	6230.7	6061.8	6252.8	6252.8
35°	6496.0	6516.1	6411.5	6532.1	6445.7
37.5°	6731.1	6514.0	6445.7	6520.1	6763.3
40°	6785.4	6403.5	6222.6	6395.5	6696.9
42.5°	6624.6	6453.8	6140.2	6433.7	6592.4
45°	6638.7	6435.7	6120.1	6411.5	6602.5
47.5°	6694.9	6558.3	6118.1	6538.2	6664.8
50°	6727.1	6315.1	5957.3	6313.1	6729.1
52.5°	6554.2	6013.6	5549.3	6005.5	6534.1
55°	6168.3	5599.5	5012.7	5557.3	6120.1
57.5°	5738.2	5123.2	4441.9	5089.0	5645.8
60°	5044.8	4526.3	3907.2	4518.2	5048.8
62.5°	4393.6	4033.8	3455.0	4021.8	4347.4
65°	3842.9	3340.4	3006.8	3354.5	3832.9
67.5°	3167.6	2777.7	2450.1	2779.7	3149.5
70°	2600.8	2327.5	2062.1	2309.4	2574.7
72.5°	2040.0	1885.3	1756.6	1879.2	2046.1
75°	1595.9	1493.3	1497.4	1509.4	1605.9
77.5°	1248.1	1195.9	1276.3	1201.9	1238.1
80°	984.8	956.7	1067.3	956.7	962.7
82.5°	783.9	757.7	846.2	759.7	781.8
85°	611.0	594.9	645.2	592.9	594.9
87.5°	458.3	466.3	472.3	468.3	446.2
90°	365.8	389.9	371.8	385.9	359.8
92.5°	321.6	341.7	341.7	347.7	313.5
95°	279.4	299.5	311.5	295.5	277.4
97.5°	243.2	263.3	277.4	263.3	243.2
100°	209.0	223.1	237.2	219.1	205.0
102.5°	174.9	180.9	184.9	180.9	172.9
105°	134.7	128.6	124.6	130.6	134.7
107.5°	94.5	88.4	74.4	88.4	98.5
110°	56.3	52.3	44.2	52.3	60.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	28.1	26.1	26.1	28.1	30.1
115°	10.0	12.1	14.1	12.1	10.0
117.5°	4.0	6.0	6.0	6.0	4.0
120°	4.0	4.0	4.0	4.0	4.0
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)