

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: P294480

Luminaire Tested: **BMK-36-WFL-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: P294480
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-103-3)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-36-WFL-UNV-L840-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH WIDE FROSTED 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: 35849.0 lumens
Efficiency: N/A
Efficacy: 147.5 lumens/watt
Spacing Criteria (0/90/45): 1.7 / 1.7 / 1.72
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

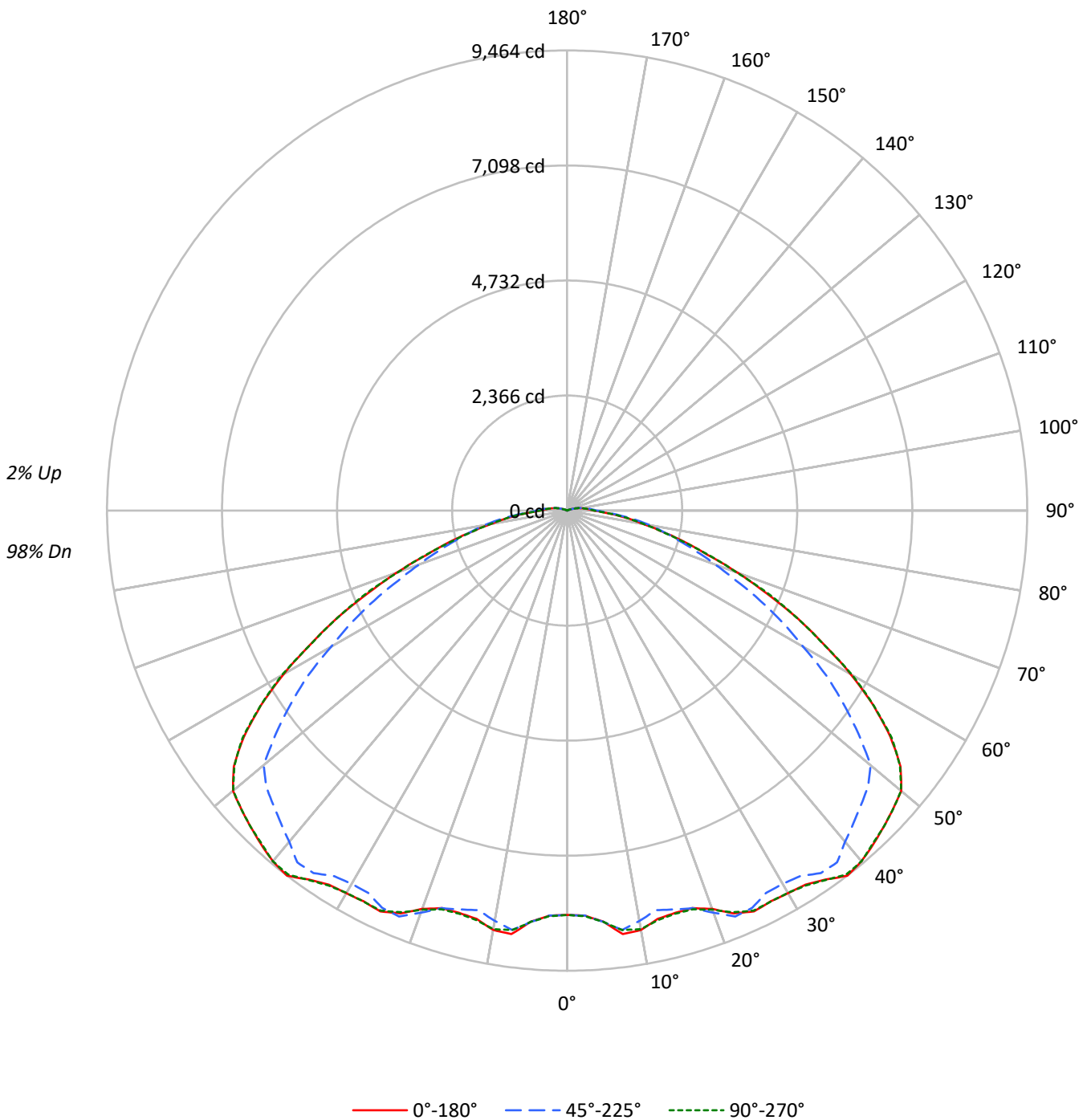
Input Watts (W): 243
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	102	97	93	104	100	95	92	95	91	88	91	88	85	87	84	82	80
2	97	88	81	75	94	86	79	74	82	76	72	78	74	70	75	71	68	65
3	88	77	68	61	85	75	67	60	71	65	59	68	62	58	65	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	43	56	48	42	53	47	41	51	45	41	38
6	67	53	44	37	65	52	43	37	50	42	36	48	41	36	46	40	35	33
7	62	48	38	32	60	47	38	32	45	37	31	43	36	31	42	35	31	29
8	57	43	34	28	56	42	34	28	41	33	28	39	32	27	38	32	27	25
9	53	39	31	25	52	39	30	25	37	30	25	36	29	24	35	29	24	22
10	50	36	28	22	48	35	28	22	34	27	22	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	64106	64106	64106
5°	64972	65018	65010
10°	67155	65700	66996
15°	66244	65678	66374
20°	68549	69195	68682
25°	73278	72609	73135
30°	75669	73810	75588
35°	80462	79029	80539
40°	86145	81345	86126
45°	89636	83302	89644
50°	94179	85527	94128
55°	93218	79715	93581
60°	86134	71702	86613
65°	75721	63665	75650
70°	63234	54965	62815
75°	51742	49094	50662
80°	42093	45389	42617
85°	36786	39999	37339



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	819.9	2.3
10°-20°	2426.8	6.8
20°-30°	4127.9	11.5
30°-40°	5748.9	16.0
40°-50°	6879.1	19.2
50°-60°	6689.4	18.7
60°-70°	4745.7	13.2
70°-80°	2584.4	7.2
80°-90°	1132.7	3.2
90°-100°	470.6	1.3
100°-110°	193.2	0.5
110°-120°	29.7	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°	7374.6	20.6
0°-40°	13123.5	36.6
0°-60°	26692.0	74.5
0°-90°	35154.7	98.1
90°-120°	693.6	1.9
90°-150°	694.3	1.9
90°-180°	694.0	1.9
0°-180°	35849.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8316	8316	8316	8316	8316	
5°	8484	8470	8490	8473	8489	824
15°	8566	8457	8492	8441	8582	2442
25°	9094	8859	9011	8868	9077	4173
35°	9264	9271	9099	9242	9273	5832
45°	9203	8904	8553	8914	9204	7120
55°	8118	7509	6942	7524	8150	7179
65°	5214	4761	4384	4766	5209	5147
75°	2511	2352	2382	2360	2459	2691
85°	983	981	1069	989	998	930
90°	548	591	604	590	555	314
95°	401	422	452	427	406	304
105°	175	177	174	178	176	190
115°	16	22	26	21	17	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°	8315.7	8315.7	8315.7	8315.7	8315.7
2.5°	8336.4	8331.5	8337.4	8339.4	8348.3
5°	8483.6	8469.8	8489.6	8472.8	8488.6
7.5°	8785.0	8715.9	8699.1	8694.1	8702.0
10°	8759.4	8709.9	8569.6	8708.0	8738.6
12.5°	8600.3	8548.9	8417.4	8543.9	8628.9
15°	8565.7	8457.0	8492.5	8441.2	8582.5
17.5°	8570.6	8473.8	8572.6	8465.9	8597.3
20°	8718.8	8656.6	8800.9	8649.7	8735.6
22.5°	8965.9	8857.2	9035.1	8823.6	8942.2
25°	9094.3	8859.2	9011.3	8868.1	9076.6
27.5°	9060.8	8904.6	8862.1	8903.6	9065.7
30°	9086.4	8998.5	8863.1	8983.7	9076.6
32.5°	9120.0	9067.7	8914.5	9061.7	9139.8
35°	9264.3	9271.2	9099.3	9241.6	9273.2
37.5°	9463.9	9245.5	9118.1	9230.7	9432.3
40°	9417.5	9124.0	8892.8	9123.0	9415.5
42.5°	9314.7	9044.0	8714.9	9047.9	9297.9
45°	9203.1	8903.6	8552.8	8914.5	9204.0
47.5°	9089.4	8850.3	8393.7	8839.4	9089.4
50°	8969.8	8542.9	8145.7	8544.9	8964.9
52.5°	8644.7	8094.3	7554.7	8094.3	8628.9
55°	8118.0	7509.3	6942.1	7524.1	8149.6
57.5°	7475.7	6939.1	6322.5	6932.2	7483.6
60°	6741.5	6189.1	5612.0	6228.6	6779.0
62.5°	5944.0	5550.7	5004.2	5516.1	5939.0
65°	5213.7	4761.1	4383.6	4766.1	5208.8
67.5°	4425.1	4067.4	3757.1	4061.5	4496.3
70°	3725.5	3427.1	3238.3	3427.1	3700.8
72.5°	3032.8	2881.6	2786.7	2875.6	3066.4
75°	2511.0	2351.9	2382.5	2359.8	2458.6
77.5°	2005.0	1926.0	2039.6	1927.0	1992.2
80°	1590.0	1573.2	1714.5	1568.3	1609.8
82.5°	1274.8	1256.0	1389.4	1250.1	1288.6
85°	983.3	981.3	1069.2	989.2	998.1
87.5°	726.3	752.0	792.5	756.0	727.3
90°	548.4	590.9	603.8	590.0	555.4
92.5°	469.4	498.0	516.8	497.1	477.3
95°	401.2	422.0	451.6	426.9	406.1
97.5°	339.9	359.7	380.5	359.7	342.9
100°	282.6	296.5	316.2	298.4	285.6
102.5°	233.2	236.2	246.1	240.1	232.2
105°	174.9	176.9	173.9	177.9	175.9
107.5°	126.5	124.5	116.6	127.5	125.5
110°	79.1	79.1	77.1	80.0	79.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	41.5	44.5	48.4	44.5	43.5
115°	15.8	21.7	25.7	20.8	16.8
117.5°	6.9	9.9	10.9	9.9	6.9
120°	5.9	6.9	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)