

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: P294461

Luminaire Tested: **BMK-18-WFL-UNV-L835-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: P294461
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-18-WFL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH WIDE FROSTED LENS
Light Source: (528) 80 CRI 3500K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18101.0 lumens
Efficiency: N/A
Efficacy: 159.1 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

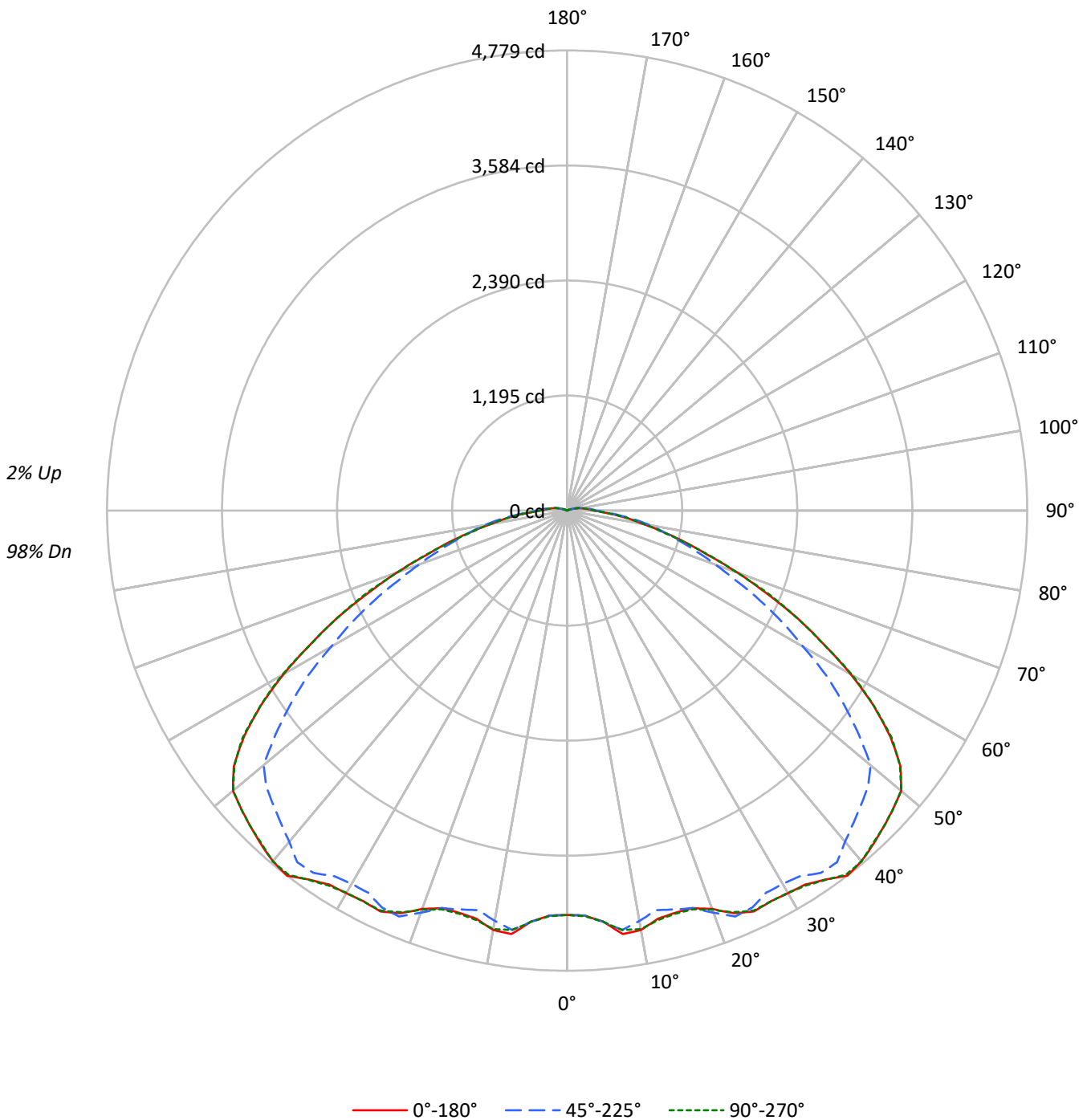
Input Watts (W): 113.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	32369	32369	32369
5°	32806	32829	32825
10°	33908	33174	33828
15°	33448	33163	33514
20°	34612	34938	34679
25°	36999	36662	36928
30°	38208	37268	38166
35°	40627	39903	40666
40°	43496	41073	43487
45°	45258	42061	45263
50°	47554	43184	47527
55°	47068	40250	47251
60°	43490	36204	43733
65°	38233	32146	38197
70°	31929	27753	31716
75°	26126	24789	25580
80°	21253	22918	21518
85°	18574	20198	18855



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	414.0	2.3
10°-20°	1225.3	6.8
20°-30°	2084.3	11.5
30°-40°	2902.8	16.0
40°-50°	3473.4	19.2
50°-60°	3377.6	18.7
60°-70°	2396.2	13.2
70°-80°	1304.9	7.2
80°-90°	571.9	3.2
90°-100°	237.7	1.3
100°-110°	97.6	0.5
110°-120°	15.0	0.1
120°-130°	0.4	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°	3723.6	20.6
0°-40°	6626.4	36.6
0°-60°	13477.4	74.5
0°-90°	17750.4	98.1
90°-120°	350.2	1.9
90°-150°	350.6	1.9
90°-180°	351.0	1.9
0°-180°	18101.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4199	4199	4199	4199	4199	
5°	4284	4277	4287	4278	4286	416
15°	4325	4270	4288	4262	4334	1233
25°	4592	4473	4550	4478	4583	2107
35°	4678	4681	4594	4666	4682	2945
45°	4647	4496	4318	4501	4647	3595
55°	4099	3792	3505	3799	4115	3625
65°	2632	2404	2213	2406	2630	2599
75°	1268	1188	1203	1192	1241	1359
85°	496	496	540	500	504	469
90°	277	298	305	298	280	159
95°	203	213	228	216	205	154
105°	88	89	88	90	89	96
115°	8	11	13	10	8	14
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



TEST NUMBER: P294461

CATALOG NUMBER: BMK-18-WFL-UNV-L835-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4198.8	4198.8	4198.8	4198.8	4198.8
2.5°	4209.2	4206.8	4209.7	4210.7	4215.2
5°	4283.6	4276.6	4286.6	4278.1	4286.1
7.5°	4435.8	4400.8	4392.4	4389.9	4393.9
10°	4422.8	4397.9	4327.0	4396.9	4412.3
12.5°	4342.5	4316.5	4250.2	4314.0	4356.9
15°	4325.0	4270.1	4288.1	4262.1	4333.5
17.5°	4327.5	4278.6	4328.5	4274.6	4341.0
20°	4402.3	4370.9	4443.8	4367.4	4410.8
22.5°	4527.1	4472.2	4562.0	4455.2	4515.1
25°	4591.9	4473.2	4550.0	4477.7	4583.0
27.5°	4575.0	4496.1	4474.7	4495.7	4577.5
30°	4588.0	4543.6	4475.2	4536.1	4583.0
32.5°	4604.9	4578.5	4501.1	4575.5	4614.9
35°	4677.8	4681.3	4594.4	4666.3	4682.3
37.5°	4778.6	4668.3	4603.9	4660.8	4762.6
40°	4755.1	4606.9	4490.2	4606.4	4754.1
42.5°	4703.2	4566.5	4400.3	4568.5	4694.7
45°	4646.8	4495.7	4318.5	4501.1	4647.3
47.5°	4589.5	4468.7	4238.2	4463.2	4589.5
50°	4529.1	4313.5	4112.9	4314.5	4526.6
52.5°	4364.9	4087.0	3814.6	4087.0	4356.9
55°	4099.0	3791.6	3505.2	3799.1	4114.9
57.5°	3774.6	3503.7	3192.4	3500.2	3778.6
60°	3403.9	3125.0	2833.6	3145.0	3422.9
62.5°	3001.3	2802.7	2526.7	2785.2	2998.8
65°	2632.5	2404.0	2213.4	2406.5	2630.0
67.5°	2234.4	2053.7	1897.1	2050.7	2270.3
70°	1881.1	1730.4	1635.1	1730.4	1868.6
72.5°	1531.3	1455.0	1407.1	1452.0	1548.3
75°	1267.9	1187.5	1203.0	1191.5	1241.4
77.5°	1012.4	972.5	1029.9	973.0	1005.9
80°	802.8	794.3	865.7	791.9	812.8
82.5°	643.7	634.2	701.5	631.2	650.6
85°	496.5	495.5	539.9	499.5	504.0
87.5°	366.7	379.7	400.2	381.7	367.2
90°	276.9	298.4	304.9	297.9	280.4
92.5°	237.0	251.5	261.0	251.0	241.0
95°	202.6	213.1	228.0	215.6	205.1
97.5°	171.6	181.6	192.1	181.6	173.1
100°	142.7	149.7	159.7	150.7	144.2
102.5°	117.8	119.3	124.2	121.2	117.3
105°	88.3	89.3	87.8	89.8	88.8
107.5°	63.9	62.9	58.9	64.4	63.4
110°	39.9	39.9	38.9	40.4	39.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	21.0	22.5	24.4	22.5	22.0
115°	8.0	11.0	13.0	10.5	8.5
117.5°	3.5	5.0	5.5	5.0	3.5
120°	3.0	3.5	3.0	3.0	3.0
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)