

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: P294457

Luminaire Tested: **BMK-15-WFL-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: P294457  
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-15-WFL-UNV-L850-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH WIDE FROSTED 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: 15423.0 lumens  
Efficiency: N/A  
Efficacy: 164.4 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

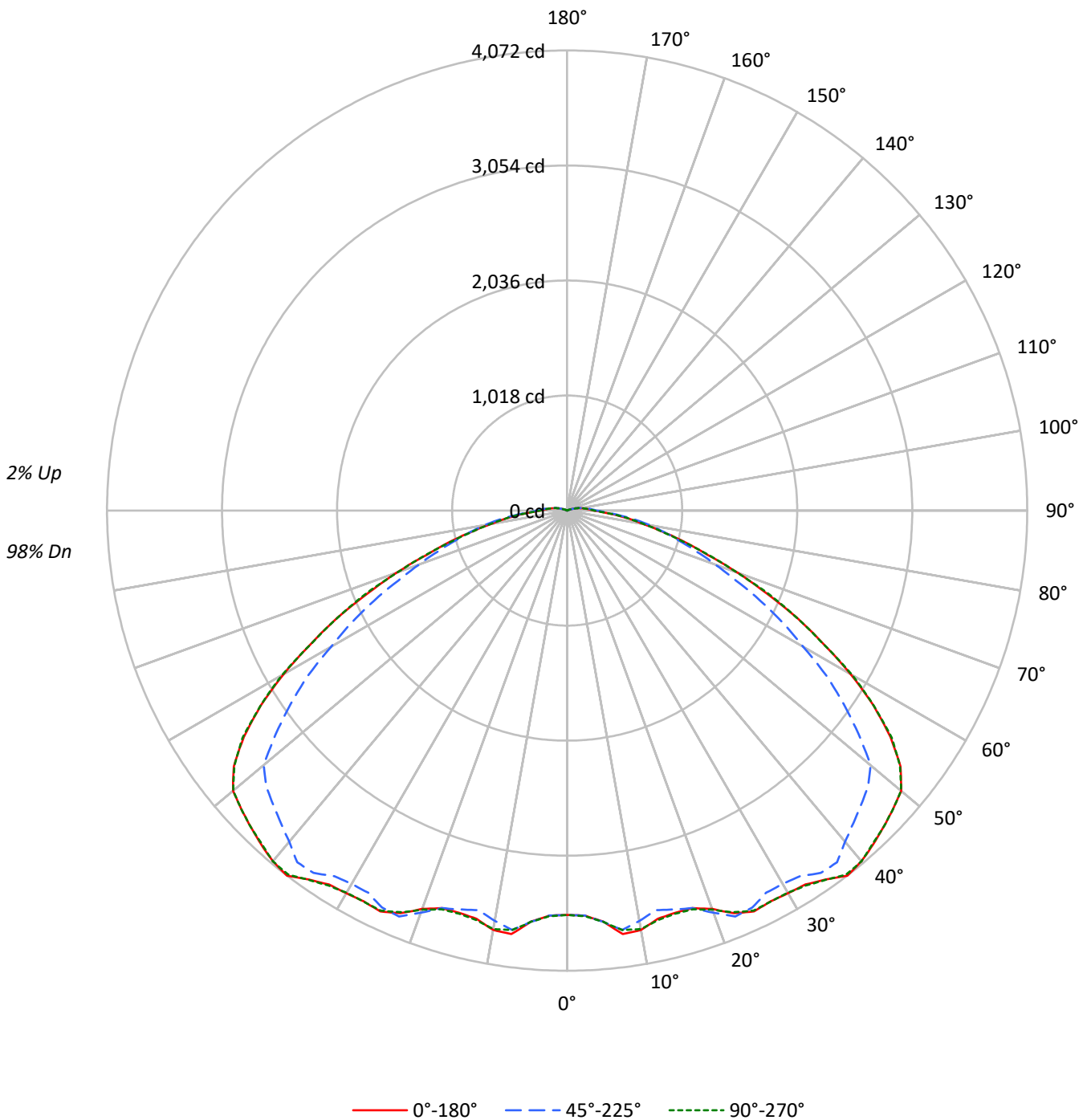
Input Watts (W): 93.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	27580	27580	27580
5°	27952	27972	27969
10°	28892	28265	28823
15°	28499	28257	28556
20°	29491	29769	29549
25°	31526	31238	31464
30°	32555	31755	32519
35°	34616	34000	34649
40°	37061	34997	37054
45°	38562	35838	38567
50°	40518	36795	40496
55°	40104	34295	40260
60°	37056	30848	37263
65°	32576	27390	32546
70°	27205	23647	27025
75°	22261	21121	21797
80°	18110	19527	18336
85°	15825	17209	16064



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	352.7	2.3
10°-20°	1044.1	6.8
20°-30°	1775.9	11.5
30°-40°	2473.3	16.0
40°-50°	2959.5	19.2
50°-60°	2877.9	18.7
60°-70°	2041.7	13.2
70°-80°	1111.8	7.2
80°-90°	487.3	3.2
90°-100°	202.5	1.3
100°-110°	83.1	0.5
110°-120°	12.8	0.1
120°-130°	0.3	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°	3172.7	20.6
0°-40°	5646.0	36.6
0°-60°	11483.4	74.5
0°-90°	15124.3	98.1
90°-120°	298.4	1.9
90°-150°	298.7	1.9
90°-180°	299.0	1.9
0°-180°	15423.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3578	3578	3578	3578	3578	
5°	3650	3644	3652	3645	3652	355
15°	3685	3638	3654	3632	3692	1051
25°	3913	3811	3877	3815	3905	1795
35°	3986	3989	3915	3976	3990	2509
45°	3959	3830	3680	3835	3960	3063
55°	3492	3231	2987	3237	3506	3089
65°	2243	2048	1886	2050	2241	2214
75°	1080	1012	1025	1015	1058	1158
85°	423	422	460	426	429	400
90°	236	254	260	254	239	135
95°	173	182	194	184	175	131
105°	75	76	75	76	76	82
115°	7	9	11	9	7	12
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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CATALOG NUMBER: BMK-15-WFL-UNV-L850-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3577.6	3577.6	3577.6	3577.6	3577.6
2.5°	3586.5	3584.4	3586.9	3587.8	3591.6
5°	3649.8	3643.9	3652.4	3645.2	3652.0
7.5°	3779.5	3749.8	3742.5	3740.4	3743.8
10°	3768.5	3747.2	3686.8	3746.4	3759.5
12.5°	3700.0	3677.9	3621.4	3675.8	3712.3
15°	3685.1	3638.4	3653.7	3631.6	3692.4
17.5°	3687.3	3645.6	3688.1	3642.2	3698.7
20°	3751.0	3724.2	3786.3	3721.3	3758.3
22.5°	3857.3	3810.5	3887.1	3796.1	3847.1
25°	3912.6	3811.4	3876.9	3815.2	3904.9
27.5°	3898.1	3831.0	3812.7	3830.5	3900.3
30°	3909.2	3871.3	3813.1	3865.0	3904.9
32.5°	3923.6	3901.1	3835.2	3898.6	3932.1
35°	3985.7	3988.7	3914.7	3975.9	3989.5
37.5°	4071.6	3977.6	3922.8	3971.3	4058.0
40°	4051.6	3925.3	3825.9	3924.9	4050.8
42.5°	4007.4	3890.9	3749.3	3892.6	4000.2
45°	3959.3	3830.5	3679.6	3835.2	3959.8
47.5°	3910.5	3807.6	3611.2	3802.9	3910.5
50°	3859.0	3675.4	3504.4	3676.2	3856.9
52.5°	3719.1	3482.3	3250.2	3482.3	3712.3
55°	3492.5	3230.7	2986.6	3237.0	3506.1
57.5°	3216.2	2985.3	2720.1	2982.4	3219.6
60°	2900.3	2662.7	2414.4	2679.7	2916.5
62.5°	2557.2	2388.0	2152.9	2373.1	2555.1
65°	2243.0	2048.3	1885.9	2050.5	2240.9
67.5°	1903.8	1749.9	1616.4	1747.3	1934.4
70°	1602.8	1474.4	1393.2	1474.4	1592.2
72.5°	1304.8	1239.7	1198.9	1237.2	1319.2
75°	1080.3	1011.8	1025.0	1015.2	1057.8
77.5°	862.6	828.6	877.5	829.0	857.1
80°	684.1	676.8	737.6	674.7	692.6
82.5°	548.4	540.4	597.7	537.8	554.4
85°	423.0	422.2	460.0	425.6	429.4
87.5°	312.5	323.5	341.0	325.2	312.9
90°	236.0	254.2	259.8	253.8	238.9
92.5°	201.9	214.3	222.3	213.8	205.3
95°	172.6	181.5	194.3	183.7	174.7
97.5°	146.2	154.8	163.7	154.8	147.5
100°	121.6	127.5	136.0	128.4	122.9
102.5°	100.3	101.6	105.9	103.3	99.9
105°	75.3	76.1	74.8	76.5	75.7
107.5°	54.4	53.6	50.2	54.8	54.0
110°	34.0	34.0	33.2	34.4	34.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	17.9	19.1	20.8	19.1	18.7
115°	6.8	9.4	11.1	8.9	7.2
117.5°	3.0	4.3	4.7	4.3	3.0
120°	2.6	3.0	2.6	2.6	2.6
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)