

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: P294493

Luminaire Tested: **BMK-15-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: P294493
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-15-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: 15874.0 lumens
Efficiency: N/A
Efficacy: 169.2 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

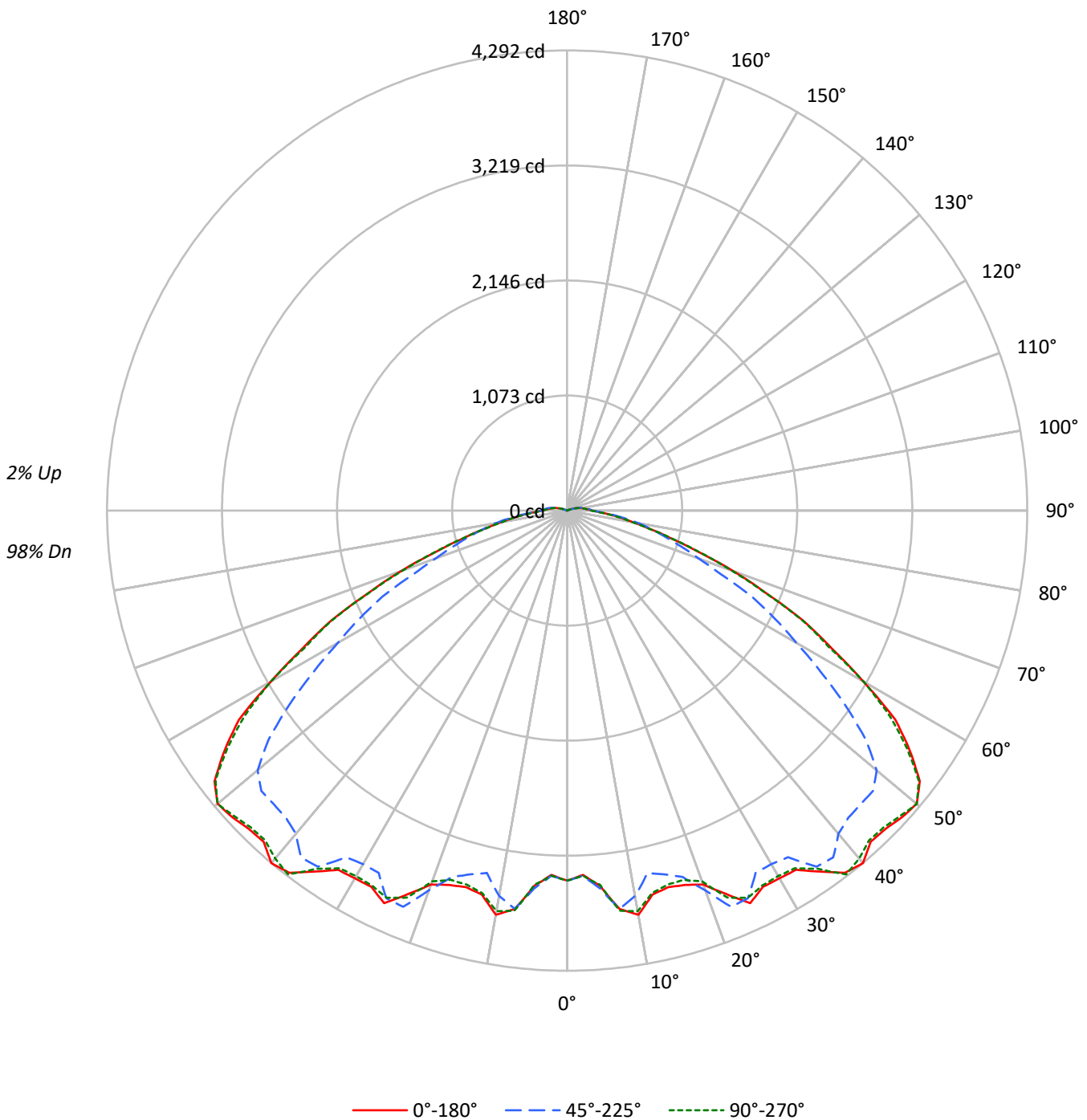
Input Watts (W): 93.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	26609	26609	26609
5°	26901	27097	26833
10°	29347	27992	29084
15°	28120	27175	27933
20°	29177	29637	28927
25°	32554	32145	32114
30°	32980	31698	32778
35°	35686	35223	35410
40°	39260	36004	38748
45°	40899	37704	40676
50°	44677	39565	44690
55°	44803	36409	44452
60°	40770	31576	40802
65°	35304	27622	35211
70°	27923	22140	27643
75°	20800	19516	20932
80°	16490	17872	16122
85°	14459	15267	14078



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	346.7	2.2
10°-20°	1019.8	6.4
20°-30°	1783.1	11.2
30°-40°	2539.2	16.0
40°-50°	3142.9	19.8
50°-60°	3126.4	19.7
60°-70°	2119.0	13.3
70°-80°	1050.8	6.6
80°-90°	438.3	2.8
90°-100°	206.2	1.3
100°-110°	89.7	0.6
110°-120°	11.6	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°	3149.6	19.8
0°-40°	5688.8	35.8
0°-60°	11958.1	75.3
0°-90°	15566.2	98.1
90°-120°	307.5	1.9
90°-150°	307.8	1.9
90°-180°	308.0	1.9
0°-180°	15874.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3452	3452	3452	3452	3452	
5°	3513	3499	3538	3514	3504	349
15°	3636	3505	3514	3511	3612	1043
25°	4040	3799	3989	3783	3986	1820
35°	4109	4122	4056	4132	4077	2591
45°	4199	4071	3871	4056	4176	3272
55°	3902	3542	3171	3515	3871	3445
65°	2431	2113	1902	2122	2424	2380
75°	1009	945	947	955	1016	1113
85°	386	376	408	375	376	364
90°	231	247	235	244	228	131
95°	177	189	197	187	175	136
105°	85	81	79	83	85	90
115°	6	8	9	8	6	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



TEST NUMBER: P294493

CATALOG NUMBER: BMK-15-WCL-UNV-L850-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3451.6	3451.6	3451.6	3451.6	3451.6
2.5°	3400.8	3414.8	3409.7	3404.6	3409.7
5°	3512.6	3498.7	3538.1	3513.9	3503.7
7.5°	3747.8	3713.5	3745.3	3714.8	3763.1
10°	3827.9	3770.7	3651.2	3756.7	3793.6
12.5°	3669.0	3613.1	3461.8	3623.3	3653.8
15°	3636.0	3505.0	3513.9	3511.4	3611.8
17.5°	3660.1	3503.7	3582.6	3506.3	3611.8
20°	3711.0	3641.1	3769.5	3643.6	3679.2
22.5°	3871.2	3810.1	3999.6	3807.6	3906.8
25°	4040.2	3798.7	3989.4	3783.4	3985.6
27.5°	3956.3	3821.6	3808.9	3806.3	3942.4
30°	3960.2	3863.5	3806.3	3873.7	3936.0
32.5°	3972.9	3941.1	3834.3	3955.1	3955.1
35°	4108.9	4121.6	4055.5	4131.8	4077.1
37.5°	4257.6	4120.3	4077.1	4124.2	4278.0
40°	4292.0	4050.4	3936.0	4045.3	4236.0
42.5°	4190.3	4082.2	3883.9	4069.5	4169.9
45°	4199.2	4070.8	3871.2	4055.5	4176.3
47.5°	4234.8	4148.3	3869.9	4135.6	4215.7
50°	4255.1	3994.5	3768.2	3993.2	4256.4
52.5°	4145.8	3803.8	3510.1	3798.7	4133.1
55°	3901.7	3541.9	3170.7	3515.2	3871.2
57.5°	3629.6	3240.6	2809.6	3219.0	3571.1
60°	3191.0	2863.0	2471.4	2857.9	3193.5
62.5°	2779.1	2551.5	2185.4	2543.9	2749.9
65°	2430.8	2112.9	1901.9	2121.8	2424.4
67.5°	2003.6	1757.0	1549.7	1758.2	1992.2
70°	1645.1	1472.2	1304.4	1460.7	1628.6
72.5°	1290.4	1192.5	1111.1	1188.7	1294.2
75°	1009.4	944.6	947.1	954.8	1015.8
77.5°	789.5	756.4	807.3	760.2	783.1
80°	622.9	605.1	675.1	605.1	609.0
82.5°	495.8	479.3	535.2	480.6	494.5
85°	386.5	376.3	408.1	375.0	376.3
87.5°	289.9	294.9	298.8	296.2	282.2
90°	231.4	246.6	235.2	244.1	227.6
92.5°	203.4	216.1	216.1	219.9	198.3
95°	176.7	189.4	197.1	186.9	175.4
97.5°	153.8	166.5	175.4	166.5	153.8
100°	132.2	141.1	150.0	138.6	129.7
102.5°	110.6	114.4	117.0	114.4	109.3
105°	85.2	81.4	78.8	82.6	85.2
107.5°	59.8	55.9	47.0	55.9	62.3
110°	35.6	33.1	28.0	33.1	38.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	17.8	16.5	16.5	17.8	19.1
115°	6.4	7.6	8.9	7.6	6.4
117.5°	2.5	3.8	3.8	3.8	2.5
120°	2.5	2.5	2.5	2.5	2.5
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)