

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: P294491

Luminaire Tested: **BMK-15-WCL-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: P294491  
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-L835-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH WIDE CLEAR 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: 15574.0 lumens  
Efficiency: N/A  
Efficacy: 166.0 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

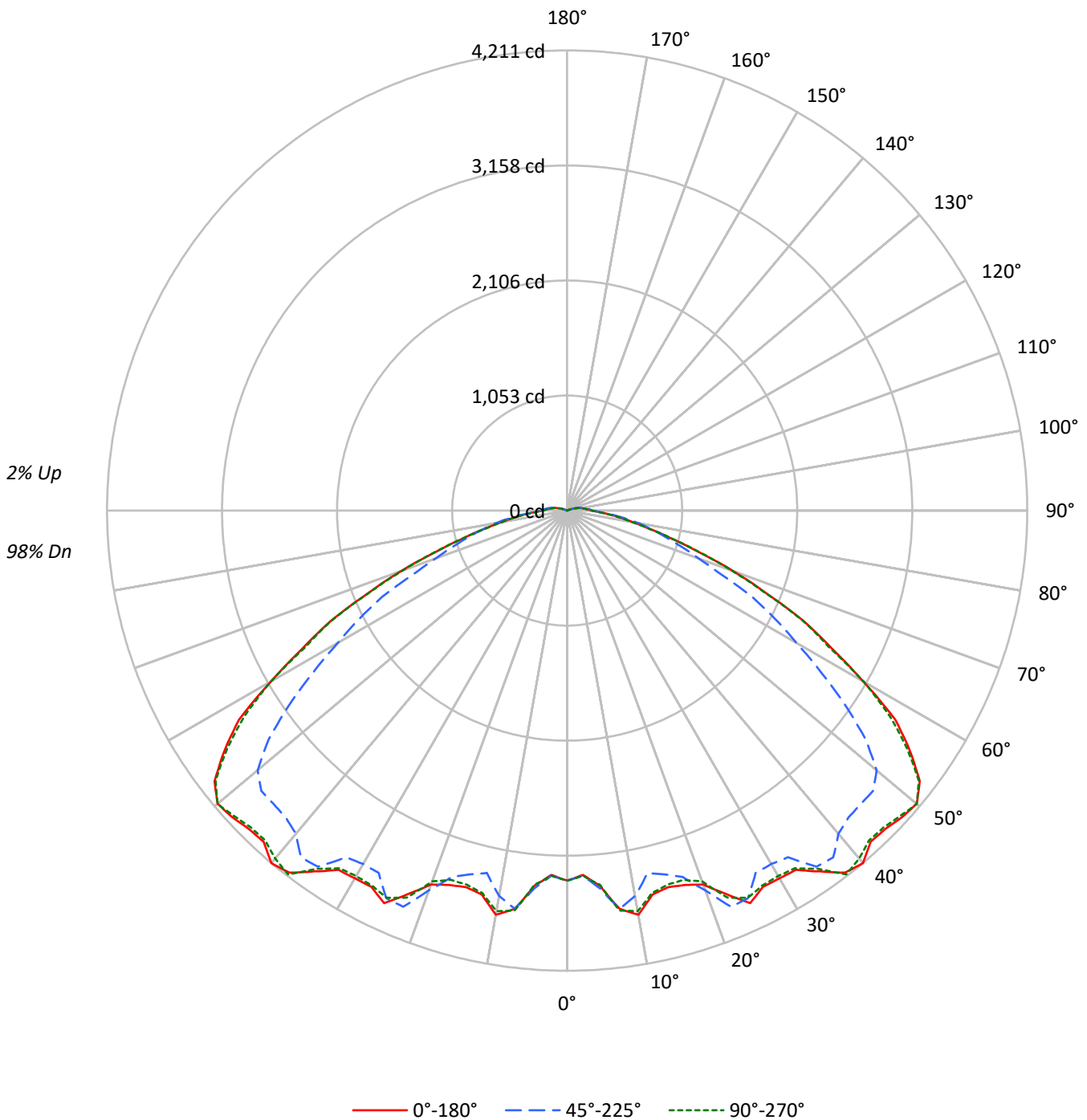
Input Watts (W): 93.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	26106	26106	26106
5°	26394	26584	26326
10°	28793	27463	28535
15°	27588	26662	27405
20°	28625	29076	28380
25°	31939	31537	31507
30°	32356	31099	32159
35°	35012	34557	34741
40°	38518	35323	38016
45°	40126	36991	39907
50°	43833	38817	43845
55°	43955	35720	43612
60°	40000	30980	40032
65°	34636	27099	34546
70°	27395	21721	27120
75°	20406	19147	20536
80°	16181	17533	15818
85°	14186	14979	13812



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	340.1	2.2
10°-20°	1000.5	6.4
20°-30°	1749.4	11.2
30°-40°	2491.2	16.0
40°-50°	3083.5	19.8
50°-60°	3067.3	19.7
60°-70°	2079.0	13.3
70°-80°	1030.9	6.6
80°-90°	430.0	2.8
90°-100°	202.4	1.3
100°-110°	88.0	0.6
110°-120°	11.4	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°	3090.1	19.8
0°-40°	5581.3	35.8
0°-60°	11732.0	75.3
0°-90°	15272.0	98.1
90°-120°	301.7	1.9
90°-150°	302.0	1.9
90°-180°	302.0	1.9
0°-180°	15574.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3386	3386	3386	3386	3386	
5°	3446	3432	3471	3448	3438	342
15°	3567	3439	3448	3445	3544	1023
25°	3964	3727	3914	3712	3910	1786
35°	4031	4044	3979	4054	4000	2542
45°	4120	3994	3798	3979	4097	3210
55°	3828	3475	3111	3449	3798	3380
65°	2385	2073	1866	2082	2379	2335
75°	990	927	929	937	997	1092
85°	379	369	400	368	369	357
90°	227	242	231	240	223	129
95°	173	186	193	183	172	133
105°	84	80	77	81	84	88
115°	6	8	9	8	6	11
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°	3386.4	3386.4	3386.4	3386.4	3386.4
2.5°	3336.5	3350.2	3345.2	3340.2	3345.2
5°	3446.3	3432.5	3471.2	3447.5	3437.5
7.5°	3677.0	3643.3	3674.5	3644.6	3692.0
10°	3755.6	3699.5	3582.2	3685.7	3721.9
12.5°	3599.7	3544.8	3396.4	3554.8	3584.7
15°	3567.3	3438.8	3447.5	3445.0	3543.6
17.5°	3590.9	3437.5	3514.9	3440.0	3543.6
20°	3640.8	3572.2	3698.2	3574.7	3609.7
22.5°	3798.0	3738.1	3924.0	3735.6	3832.9
25°	3963.9	3726.9	3914.0	3711.9	3910.3
27.5°	3881.6	3749.4	3736.9	3734.4	3867.8
30°	3885.3	3790.5	3734.4	3800.5	3861.6
32.5°	3897.8	3866.6	3761.8	3880.3	3880.3
35°	4031.2	4043.7	3978.9	4053.7	4000.1
37.5°	4177.2	4042.5	4000.1	4046.2	4197.1
40°	4210.9	3973.9	3861.6	3968.9	4156.0
42.5°	4111.1	4005.0	3810.5	3992.6	4091.1
45°	4119.8	3993.8	3798.0	3978.9	4097.3
47.5°	4154.7	4069.9	3796.8	4057.4	4136.0
50°	4174.7	3919.0	3697.0	3917.7	4175.9
52.5°	4067.4	3731.9	3443.8	3726.9	4054.9
55°	3827.9	3475.0	3110.7	3448.8	3798.0
57.5°	3561.0	3179.3	2756.5	3158.1	3503.6
60°	3130.7	2808.9	2424.7	2803.9	3133.2
62.5°	2726.6	2503.3	2144.1	2495.8	2697.9
65°	2384.8	2073.0	1865.9	2081.7	2378.6
67.5°	1965.7	1723.8	1520.4	1725.0	1954.5
70°	1614.0	1444.4	1279.7	1433.1	1597.8
72.5°	1266.0	1170.0	1090.1	1166.2	1269.7
75°	990.3	926.7	929.2	936.7	996.6
77.5°	774.6	742.1	792.0	745.9	768.3
80°	611.2	593.7	662.3	593.7	597.5
82.5°	486.4	470.2	525.1	471.5	485.2
85°	379.2	369.2	400.4	368.0	369.2
87.5°	284.4	289.4	293.1	290.6	276.9
90°	227.0	242.0	230.7	239.5	223.3
92.5°	199.6	212.0	212.0	215.8	194.6
95°	173.4	185.8	193.3	183.4	172.1
97.5°	150.9	163.4	172.1	163.4	150.9
100°	129.7	138.4	147.2	136.0	127.2
102.5°	108.5	112.3	114.8	112.3	107.3
105°	83.6	79.8	77.3	81.1	83.6
107.5°	58.6	54.9	46.1	54.9	61.1
110°	34.9	32.4	27.4	32.4	37.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	17.5	16.2	16.2	17.5	18.7
115°	6.2	7.5	8.7	7.5	6.2
117.5°	2.5	3.7	3.7	3.7	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)