

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: P294487

Luminaire Tested: **BMK-12-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: P294487  
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-12-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: 12548.0 lumens  
Efficiency: N/A  
Efficacy: 168.9 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

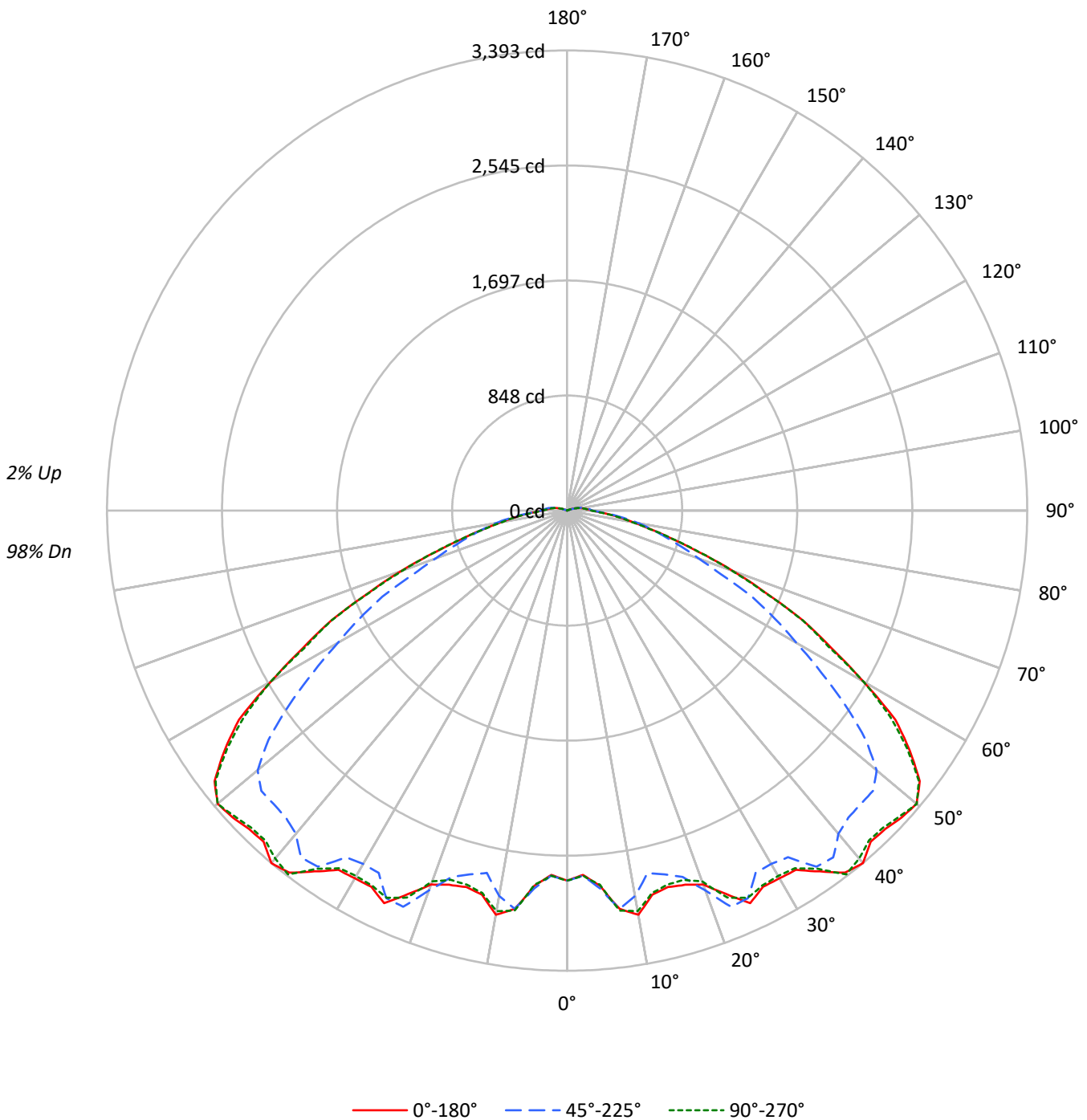
Input Watts (W): 74.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	21033	21033	21033
5°	21266	21419	21211
10°	23199	22127	22991
15°	22227	21482	22080
20°	23063	23427	22866
25°	25733	25409	25385
30°	26069	25057	25910
35°	28209	27843	27991
40°	31034	28460	30630
45°	32329	29804	32153
50°	35315	31275	35327
55°	35415	28780	35139
60°	32228	24960	32253
65°	27907	21835	27833
70°	22072	17501	21850
75°	16442	15428	16547
80°	13036	14126	12744
85°	11429	12069	11130



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	274.0	2.2
10°-20°	806.1	6.4
20°-30°	1409.5	11.2
30°-40°	2007.2	16.0
40°-50°	2484.4	19.8
50°-60°	2471.3	19.7
60°-70°	1675.0	13.3
70°-80°	830.6	6.6
80°-90°	346.5	2.8
90°-100°	163.0	1.3
100°-110°	70.9	0.6
110°-120°	9.2	0.1
120°-130°	0.2	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°	2489.7	19.8
0°-40°	4496.9	35.8
0°-60°	9452.5	75.3
0°-90°	12304.7	98.1
90°-120°	243.1	1.9
90°-150°	243.3	1.9
90°-180°	243.0	1.9
0°-180°	12548.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2728	2728	2728	2728	2728	
5°	2777	2766	2797	2778	2770	276
15°	2874	2771	2778	2776	2855	825
25°	3194	3003	3154	2991	3150	1439
35°	3248	3258	3206	3266	3223	2048
45°	3319	3218	3060	3206	3301	2586
55°	3084	2800	2506	2779	3060	2723
65°	1922	1670	1503	1677	1916	1882
75°	798	747	749	755	803	880
85°	306	298	323	296	298	288
90°	183	195	186	193	180	104
95°	140	150	156	148	139	107
105°	67	64	62	65	67	71
115°	5	6	7	6	5	9
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°	2728.4	2728.4	2728.4	2728.4	2728.4
2.5°	2688.2	2699.3	2695.3	2691.2	2695.3
5°	2776.7	2765.6	2796.8	2777.7	2769.6
7.5°	2962.6	2935.4	2960.6	2936.4	2974.6
10°	3025.9	2980.7	2886.2	2969.6	2998.8
12.5°	2900.3	2856.1	2736.5	2864.1	2888.2
15°	2874.1	2770.6	2777.7	2775.7	2855.0
17.5°	2893.2	2769.6	2831.9	2771.6	2855.0
20°	2933.4	2878.2	2979.7	2880.2	2908.3
22.5°	3060.1	3011.8	3161.6	3009.8	3088.2
25°	3193.7	3002.8	3153.5	2990.7	3150.5
27.5°	3127.4	3020.9	3010.8	3008.8	3116.3
30°	3130.4	3054.0	3008.8	3062.1	3111.3
32.5°	3140.5	3115.3	3030.9	3126.4	3126.4
35°	3248.0	3258.0	3205.8	3266.1	3222.9
37.5°	3365.6	3257.0	3222.9	3260.0	3381.6
40°	3392.7	3201.8	3111.3	3197.7	3348.5
42.5°	3312.3	3226.9	3070.1	3216.8	3296.2
45°	3319.3	3217.8	3060.1	3205.8	3301.2
47.5°	3347.5	3279.1	3059.0	3269.1	3332.4
50°	3363.5	3157.5	2978.7	3156.5	3364.6
52.5°	3277.1	3006.8	2774.7	3002.8	3267.1
55°	3084.2	2799.8	2506.3	2778.7	3060.1
57.5°	2869.1	2561.6	2220.9	2544.5	2822.9
60°	2522.4	2263.1	1953.6	2259.1	2524.4
62.5°	2196.8	2016.9	1727.5	2010.9	2173.7
65°	1921.5	1670.2	1503.4	1677.3	1916.4
67.5°	1583.8	1388.8	1225.0	1389.8	1574.7
70°	1300.4	1163.7	1031.1	1154.7	1287.3
72.5°	1020.0	942.6	878.3	939.6	1023.0
75°	797.9	746.7	748.7	754.7	803.0
77.5°	624.1	597.9	638.1	601.0	619.0
80°	492.4	478.4	533.6	478.4	481.4
82.5°	391.9	378.9	423.1	379.9	390.9
85°	305.5	297.5	322.6	296.5	297.5
87.5°	229.1	233.1	236.2	234.2	223.1
90°	182.9	195.0	185.9	192.9	179.9
92.5°	160.8	170.8	170.8	173.9	156.8
95°	139.7	149.7	155.8	147.7	138.7
97.5°	121.6	131.6	138.7	131.6	121.6
100°	104.5	111.5	118.6	109.5	102.5
102.5°	87.4	90.4	92.5	90.4	86.4
105°	67.3	64.3	62.3	65.3	67.3
107.5°	47.2	44.2	37.2	44.2	49.2
110°	28.1	26.1	22.1	26.1	30.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	14.1	13.1	13.1	14.1	15.1
115°	5.0	6.0	7.0	6.0	5.0
117.5°	2.0	3.0	3.0	3.0	2.0
120°	2.0	2.0	2.0	2.0	2.0
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)