

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: P294511

Luminaire Tested: **BMK-30-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: P294511  
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-30-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: 31135.0 lumens  
Efficiency: N/A  
Efficacy: 154.8 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

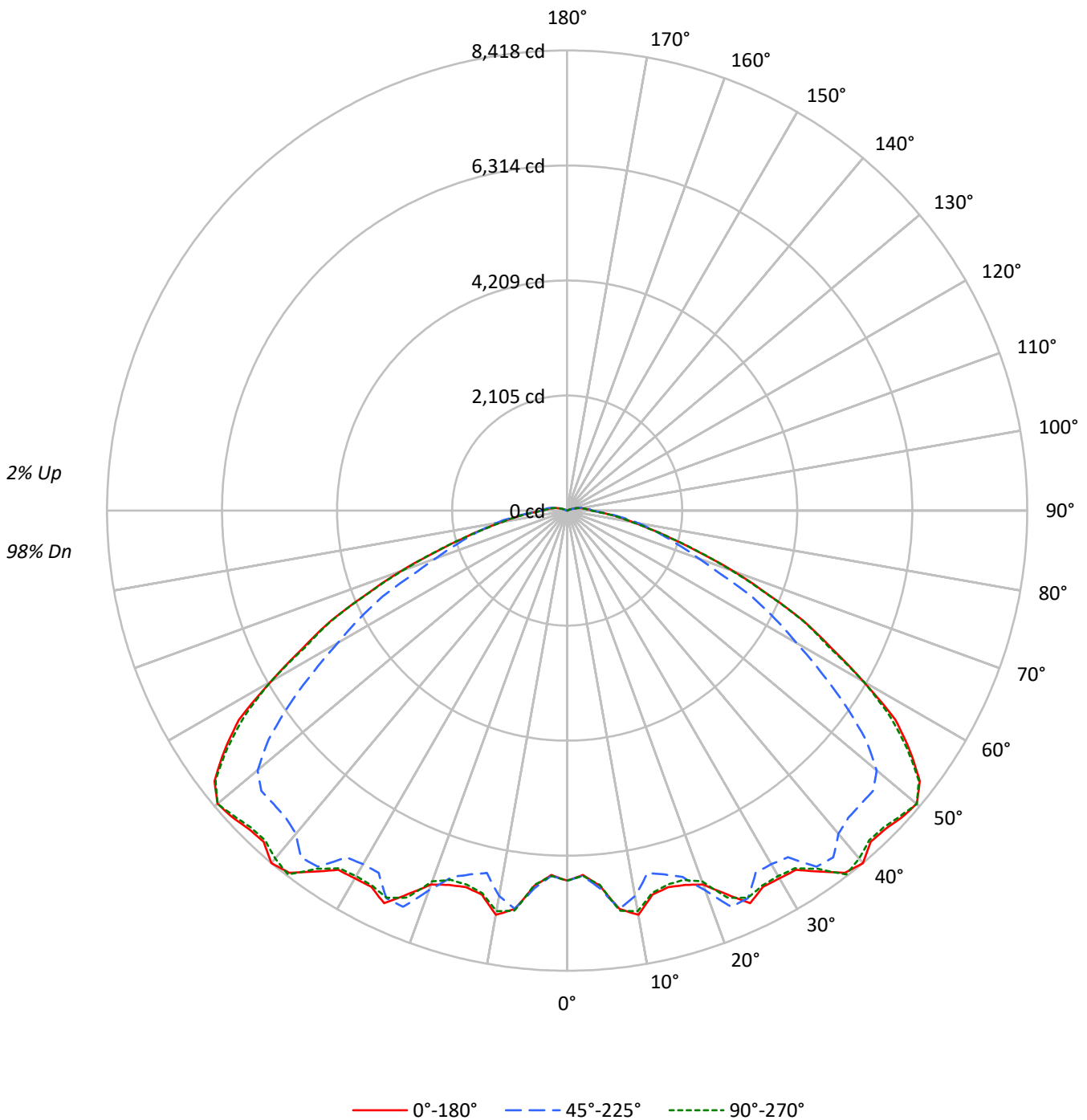
Input Watts (W): 201.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	52191	52191	52191
5°	52765	53147	52631
10°	57561	54904	57045
15°	55153	53301	54786
20°	57226	58128	56736
25°	63852	63048	62987
30°	64685	62173	64290
35°	69994	69085	69453
40°	77004	70617	76000
45°	80218	73952	79781
50°	87629	77601	87655
55°	87875	71411	87187
60°	79966	61933	80030
65°	69242	54177	69062
70°	54766	43425	54216
75°	40798	38280	41053
80°	32345	35053	31620
85°	28357	29943	27613



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	680.0	2.2
10°-20°	2000.2	6.4
20°-30°	3497.4	11.2
30°-40°	4980.4	16.0
40°-50°	6164.4	19.8
50°-60°	6132.0	19.7
60°-70°	4156.2	13.3
70°-80°	2061.0	6.6
80°-90°	859.7	2.8
90°-100°	404.6	1.3
100°-110°	175.9	0.6
110°-120°	22.8	0.1
120°-130°	0.6	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°	6177.6	19.8
0°-40°	11158.0	35.8
0°-60°	23454.3	75.3
0°-90°	30531.2	98.1
90°-120°	603.2	1.9
90°-150°	603.8	1.9
90°-180°	604.0	1.9
0°-180°	31135.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6770	6770	6770	6770	6770	
5°	6890	6862	6940	6892	6872	684
15°	7132	6875	6892	6887	7084	2046
25°	7924	7451	7825	7421	7817	3570
35°	8059	8084	7954	8104	7997	5082
45°	8236	7984	7593	7954	8191	6417
55°	7653	6947	6219	6895	7593	6757
65°	4768	4144	3730	4162	4755	4669
75°	1980	1853	1858	1873	1992	2183
85°	758	738	800	736	738	714
90°	454	484	461	479	446	257
95°	347	372	386	367	344	266
105°	167	160	155	162	167	177
115°	12	15	18	15	12	23
125°	0	0	0	0	0	1
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°	6770.0	6770.0	6770.0	6770.0	6770.0
2.5°	6670.2	6697.6	6687.7	6677.7	6687.7
5°	6889.7	6862.2	6939.5	6892.1	6872.2
7.5°	7351.0	7283.6	7346.0	7286.1	7380.9
10°	7508.0	7395.8	7161.4	7368.4	7440.7
12.5°	7196.4	7086.6	6789.9	7106.6	7166.4
15°	7131.5	6874.7	6892.1	6887.2	7084.1
17.5°	7178.9	6872.2	7026.8	6877.2	7084.1
20°	7278.6	7141.5	7393.3	7146.5	7216.3
22.5°	7592.8	7473.1	7844.7	7468.2	7662.6
25°	7924.5	7450.7	7824.7	7420.8	7817.2
27.5°	7759.9	7495.6	7470.6	7465.7	7732.5
30°	7767.4	7577.9	7465.7	7597.8	7720.0
32.5°	7792.3	7730.0	7520.5	7757.4	7757.4
35°	8059.1	8084.1	7954.4	8104.0	7996.8
37.5°	8350.9	8081.6	7996.8	8089.0	8390.8
40°	8418.2	7944.4	7720.0	7934.4	8308.5
42.5°	8218.7	8006.8	7617.8	7981.8	8178.8
45°	8236.2	7984.3	7592.8	7954.4	8191.3
47.5°	8306.0	8136.4	7590.3	8111.5	8268.6
50°	8345.9	7834.7	7390.9	7832.2	8348.4
52.5°	8131.4	7460.7	6884.7	7450.7	8106.5
55°	7652.7	6947.0	6218.9	6894.6	7592.8
57.5°	7119.1	6356.0	5510.7	6313.6	7004.4
60°	6258.8	5615.5	4847.4	5605.5	6263.8
62.5°	5450.9	5004.5	4286.4	4989.6	5393.5
65°	4767.6	4144.3	3730.3	4161.7	4755.2
67.5°	3929.8	3446.1	3039.6	3448.6	3907.4
70°	3226.6	2887.5	2558.4	2865.1	3194.2
72.5°	2530.9	2338.9	2179.4	2331.5	2538.4
75°	1979.9	1852.7	1857.7	1872.6	1992.3
77.5°	1548.5	1483.7	1583.4	1491.1	1536.0
80°	1221.8	1186.9	1324.1	1186.9	1194.4
82.5°	972.5	940.1	1049.8	942.6	970.0
85°	758.0	738.1	800.4	735.6	738.1
87.5°	568.5	578.5	586.0	581.0	553.6
90°	453.8	483.7	461.3	478.8	446.3
92.5°	399.0	423.9	423.9	431.4	389.0
95°	346.6	371.5	386.5	366.6	344.1
97.5°	301.7	326.7	344.1	326.7	301.7
100°	259.3	276.8	294.2	271.8	254.3
102.5°	216.9	224.4	229.4	224.4	214.4
105°	167.1	159.6	154.6	162.1	167.1
107.5°	117.2	109.7	92.3	109.7	122.2
110°	69.8	64.8	54.9	64.8	74.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	34.9	32.4	32.4	34.9	37.4
115°	12.5	15.0	17.5	15.0	12.5
117.5°	5.0	7.5	7.5	7.5	5.0
120°	5.0	5.0	5.0	5.0	5.0
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)