

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: P294510

Luminaire Tested: **BMK-30-WCL-UNV-L840-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: P294510  
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-L840-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH WIDE CLEAR LENS  
Light Source: (528) 80 CRI 4000K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 30980.0 lumens  
Efficiency: N/A  
Efficacy: 154.1 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

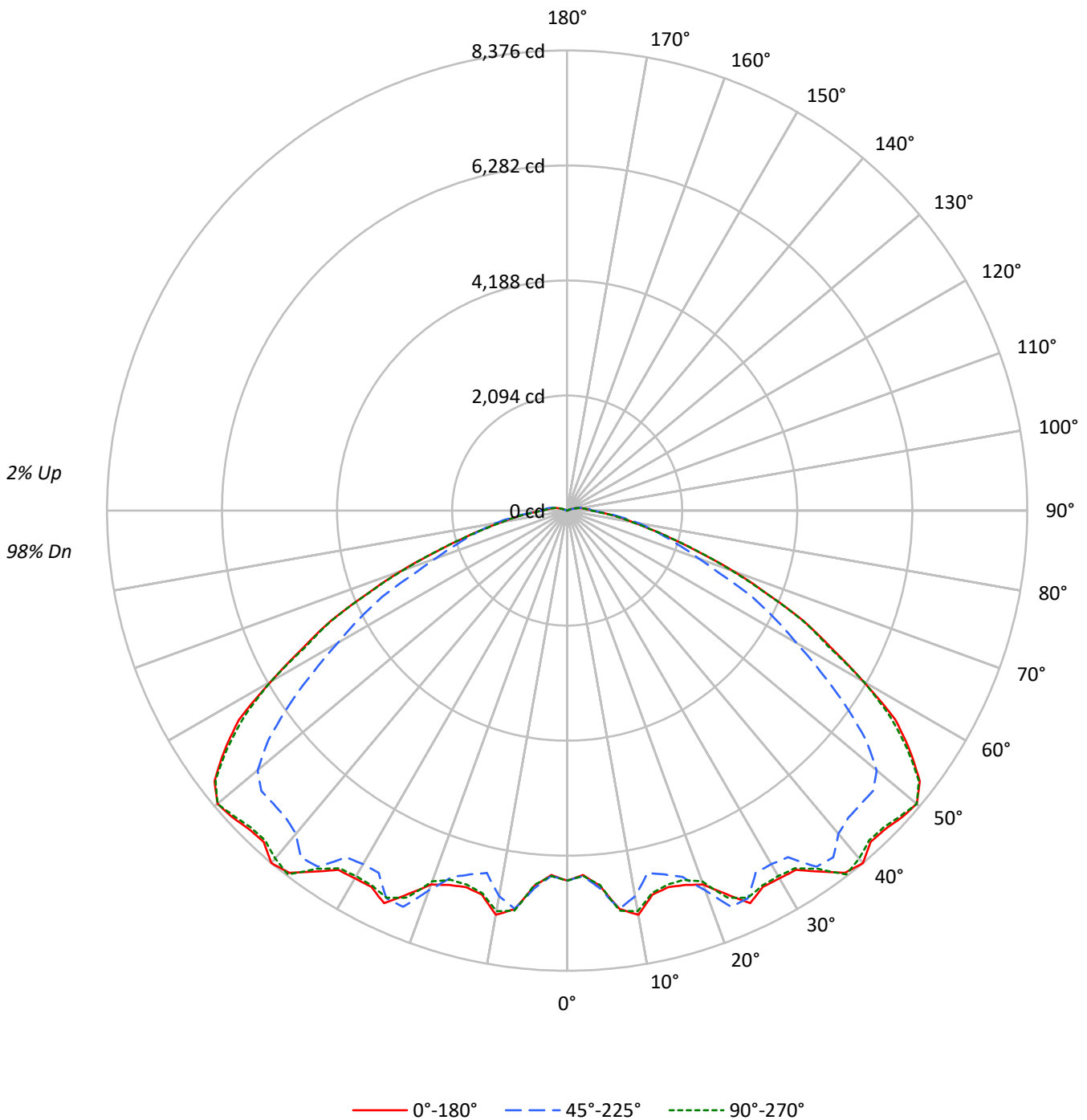
Input Watts (W): 201.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P294510

CATALOG NUMBER: BMK-30-WCL-UNV-L840-CD-U

### Luminous Intensity Polar Plot





TEST NUMBER: P294510

CATALOG NUMBER: BMK-30-WCL-UNV-L840-CD-U

**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°	51931	51931	51931
5°	52502	52882	52369
10°	57275	54631	56762
15°	54878	53036	54514
20°	56942	57839	56454
25°	63534	62734	62674
30°	64363	61863	63971
35°	69646	68741	69108
40°	76621	70266	75622
45°	79819	73583	79383
50°	87192	77215	87218
55°	87437	71055	86753
60°	79568	61626	79632
65°	68898	53908	68718
70°	54495	43207	53946
75°	40594	38088	40849
80°	32186	34879	31464
85°	28219	29794	27474



TEST NUMBER: P294510

CATALOG NUMBER: BMK-30-WCL-UNV-L840-CD-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	676.6	2.2
10°-20°	1990.2	6.4
20°-30°	3480.0	11.2
30°-40°	4955.6	16.0
40°-50°	6133.7	19.8
50°-60°	6101.4	19.7
60°-70°	4135.6	13.3
70°-80°	2050.7	6.6
80°-90°	855.4	2.8
90°-100°	402.5	1.3
100°-110°	175.0	0.6
110°-120°	22.7	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°	6146.8	19.8
0°-40°	11102.4	35.8
0°-60°	23337.5	75.3
0°-90°	30379.2	98.1
90°-120°	600.2	1.9
90°-150°	600.8	1.9
90°-180°	601.0	1.9
0°-180°	30980.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6736	6736	6736	6736	6736	
5°	6855	6828	6905	6858	6838	681
15°	7096	6840	6858	6853	7049	2036
25°	7885	7414	7786	7384	7778	3552
35°	8019	8044	7915	8064	7957	5057
45°	8195	7945	7555	7915	8150	6385
55°	7615	6912	6188	6860	7555	6724
65°	4744	4124	3712	4141	4732	4645
75°	1970	1844	1848	1863	1982	2172
85°	754	734	796	732	734	711
90°	452	481	459	476	444	256
95°	345	370	385	365	342	265
105°	166	159	154	161	166	176
115°	12	15	17	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



TEST NUMBER: P294510

CATALOG NUMBER: BMK-30-WCL-UNV-L840-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6736.3	6736.3	6736.3	6736.3	6736.3
2.5°	6637.0	6664.3	6654.4	6644.5	6654.4
5°	6855.4	6828.1	6905.0	6857.8	6838.0
7.5°	7314.4	7247.4	7309.4	7249.9	7344.1
10°	7470.7	7359.0	7125.8	7331.7	7403.7
12.5°	7160.5	7051.4	6756.1	7071.2	7130.8
15°	7096.0	6840.5	6857.8	6852.9	7048.9
17.5°	7143.2	6838.0	6991.8	6842.9	7048.9
20°	7242.4	7105.9	7356.5	7110.9	7180.4
22.5°	7555.0	7435.9	7805.6	7431.0	7624.5
25°	7885.0	7413.6	7785.8	7383.8	7778.3
27.5°	7721.3	7458.3	7433.5	7428.5	7694.0
30°	7728.7	7540.1	7428.5	7560.0	7681.6
32.5°	7753.5	7691.5	7483.1	7718.8	7718.8
35°	8019.0	8043.8	7914.8	8063.7	7957.0
37.5°	8309.3	8041.3	7957.0	8048.8	8349.0
40°	8376.3	7904.9	7681.6	7894.9	8267.1
42.5°	8177.8	7966.9	7579.8	7942.1	8138.1
45°	8195.2	7944.6	7555.0	7914.8	8150.5
47.5°	8264.6	8095.9	7552.5	8071.1	8227.4
50°	8304.3	7795.7	7354.1	7793.2	8306.8
52.5°	8091.0	7423.5	6850.4	7413.6	8066.1
55°	7614.6	6912.4	6187.9	6860.3	7555.0
57.5°	7083.6	6324.4	5483.3	6282.2	6969.5
60°	6227.6	5587.5	4823.3	5577.6	6232.6
62.5°	5423.7	4979.6	4265.1	4964.7	5366.7
65°	4743.9	4123.6	3711.8	4141.0	4731.5
67.5°	3910.3	3428.9	3024.5	3431.4	3887.9
70°	3210.6	2873.1	2545.6	2850.8	3178.3
72.5°	2518.3	2327.3	2168.5	2319.9	2525.8
75°	1970.0	1843.5	1848.4	1863.3	1982.4
77.5°	1540.8	1476.3	1575.5	1483.7	1528.4
80°	1215.8	1181.0	1317.5	1181.0	1188.5
82.5°	967.6	935.4	1044.6	937.9	965.2
85°	754.3	734.4	796.4	731.9	734.4
87.5°	565.7	575.6	583.1	578.1	550.8
90°	451.6	481.3	459.0	476.4	444.1
92.5°	397.0	421.8	421.8	429.2	387.1
95°	344.9	369.7	384.6	364.7	342.4
97.5°	300.2	325.0	342.4	325.0	300.2
100°	258.0	275.4	292.8	270.4	253.1
102.5°	215.9	223.3	228.3	223.3	213.4
105°	166.2	158.8	153.8	161.3	166.2
107.5°	116.6	109.2	91.8	109.2	121.6
110°	69.5	64.5	54.6	64.5	74.4



TEST NUMBER: P294510

CATALOG NUMBER: BMK-30-WCL-UNV-L840-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	34.7	32.3	32.3	34.7	37.2
115°	12.4	14.9	17.4	14.9	12.4
117.5°	5.0	7.4	7.4	7.4	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)