

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: P294492

Luminaire Tested: **BMK-15-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: P294492
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-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: 15795.0 lumens
Efficiency: N/A
Efficacy: 168.4 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

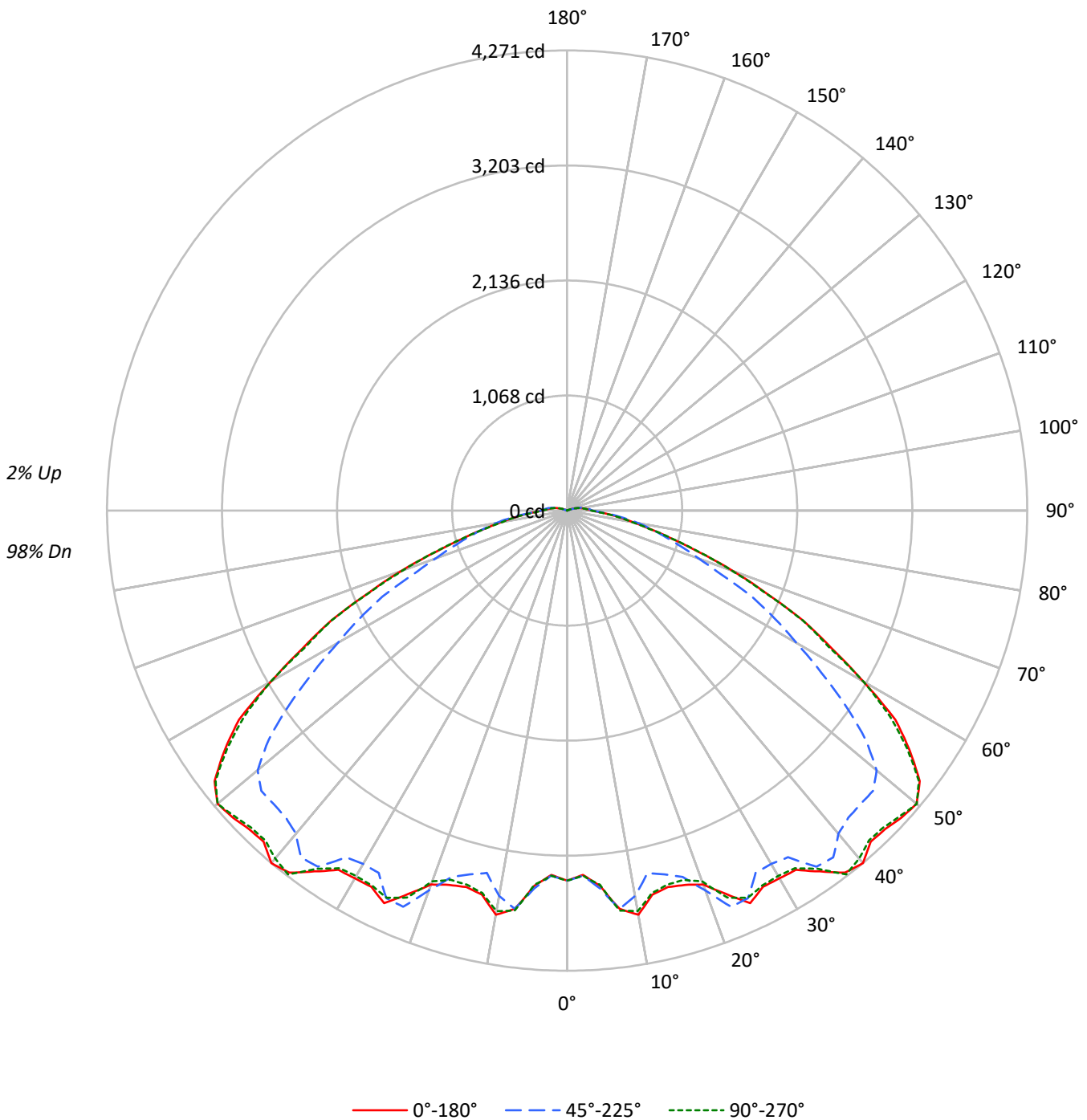
Input Watts (W): 93.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	26476	26476	26476
5°	26768	26962	26700
10°	29202	27854	28939
15°	27980	27040	27793
20°	29031	29489	28783
25°	32392	31984	31954
30°	32815	31541	32615
35°	35508	35047	35234
40°	39064	35825	38555
45°	40695	37516	40473
50°	44454	39367	44468
55°	44580	36227	44231
60°	40567	31419	40600
65°	35128	27484	35035
70°	27784	22030	27505
75°	20697	19419	20827
80°	16408	17782	16040
85°	14388	15192	14006



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	345.0	2.2
10°-20°	1014.7	6.4
20°-30°	1774.3	11.2
30°-40°	2526.6	16.0
40°-50°	3127.2	19.8
50°-60°	3110.8	19.7
60°-70°	2108.5	13.3
70°-80°	1045.6	6.6
80°-90°	436.1	2.8
90°-100°	205.2	1.3
100°-110°	89.2	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°	3133.9	19.8
0°-40°	5660.5	35.8
0°-60°	11898.5	75.3
0°-90°	15488.7	98.1
90°-120°	306.0	1.9
90°-150°	306.3	1.9
90°-180°	306.0	1.9
0°-180°	15795.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3434	3434	3434	3434	3434	
5°	3495	3481	3520	3496	3486	347
15°	3618	3488	3496	3494	3594	1038
25°	4020	3780	3970	3765	3966	1811
35°	4088	4101	4035	4111	4057	2578
45°	4178	4050	3852	4035	4156	3255
55°	3882	3524	3155	3498	3852	3428
65°	2419	2102	1892	2111	2412	2368
75°	1004	940	942	950	1011	1107
85°	385	374	406	373	374	362
90°	230	245	234	243	226	130
95°	176	188	196	186	175	135
105°	85	81	78	82	85	90
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°	3434.4	3434.4	3434.4	3434.4	3434.4
2.5°	3383.8	3397.8	3392.7	3387.6	3392.7
5°	3495.2	3481.3	3520.5	3496.4	3486.3
7.5°	3729.2	3695.0	3726.7	3696.3	3744.4
10°	3808.9	3752.0	3633.1	3738.0	3774.7
12.5°	3650.8	3595.1	3444.6	3605.2	3635.6
15°	3617.9	3487.6	3496.4	3493.9	3593.8
17.5°	3641.9	3486.3	3564.7	3488.8	3593.8
20°	3692.5	3622.9	3750.7	3625.5	3660.9
22.5°	3851.9	3791.2	3979.7	3788.6	3887.3
25°	4020.1	3779.8	3969.5	3764.6	3965.7
27.5°	3936.6	3802.6	3789.9	3787.4	3922.7
30°	3940.4	3844.3	3787.4	3854.4	3916.4
32.5°	3953.1	3921.5	3815.2	3935.4	3935.4
35°	4088.4	4101.1	4035.3	4111.2	4056.8
37.5°	4236.5	4099.8	4056.8	4103.6	4256.7
40°	4270.6	4030.3	3916.4	4025.2	4214.9
42.5°	4169.4	4061.9	3864.5	4049.2	4149.2
45°	4178.3	4050.5	3851.9	4035.3	4155.5
47.5°	4213.7	4127.7	3850.6	4115.0	4194.7
50°	4233.9	3974.6	3749.4	3973.3	4235.2
52.5°	4125.1	3784.8	3492.6	3779.8	4112.5
55°	3882.3	3524.3	3154.9	3497.7	3851.9
57.5°	3611.5	3224.5	2795.6	3203.0	3553.4
60°	3175.1	2848.8	2459.1	2843.7	3177.7
62.5°	2765.3	2538.8	2174.5	2531.2	2736.2
65°	2418.7	2102.4	1892.4	2111.3	2412.3
67.5°	1993.6	1748.2	1542.0	1749.5	1982.2
70°	1636.9	1464.9	1297.9	1453.5	1620.5
72.5°	1284.0	1186.6	1105.6	1182.8	1287.8
75°	1004.4	939.9	942.4	950.0	1010.7
77.5°	785.6	752.7	803.3	756.5	779.2
80°	619.8	602.1	671.7	602.1	605.9
82.5°	493.3	476.9	532.6	478.2	492.1
85°	384.6	374.4	406.1	373.2	374.4
87.5°	288.4	293.5	297.3	294.7	280.8
90°	230.2	245.4	234.0	242.9	226.4
92.5°	202.4	215.0	215.0	218.8	197.3
95°	175.8	188.5	196.1	186.0	174.6
97.5°	153.1	165.7	174.6	165.7	153.1
100°	131.6	140.4	149.3	137.9	129.0
102.5°	110.1	113.8	116.4	113.8	108.8
105°	84.8	81.0	78.4	82.2	84.8
107.5°	59.5	55.7	46.8	55.7	62.0
110°	35.4	32.9	27.8	32.9	37.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	17.7	16.4	16.4	17.7	19.0
115°	6.3	7.6	8.9	7.6	6.3
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)