

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: P294498

Luminaire Tested: **BMK-18-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: P294498
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-18-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: 18895.0 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

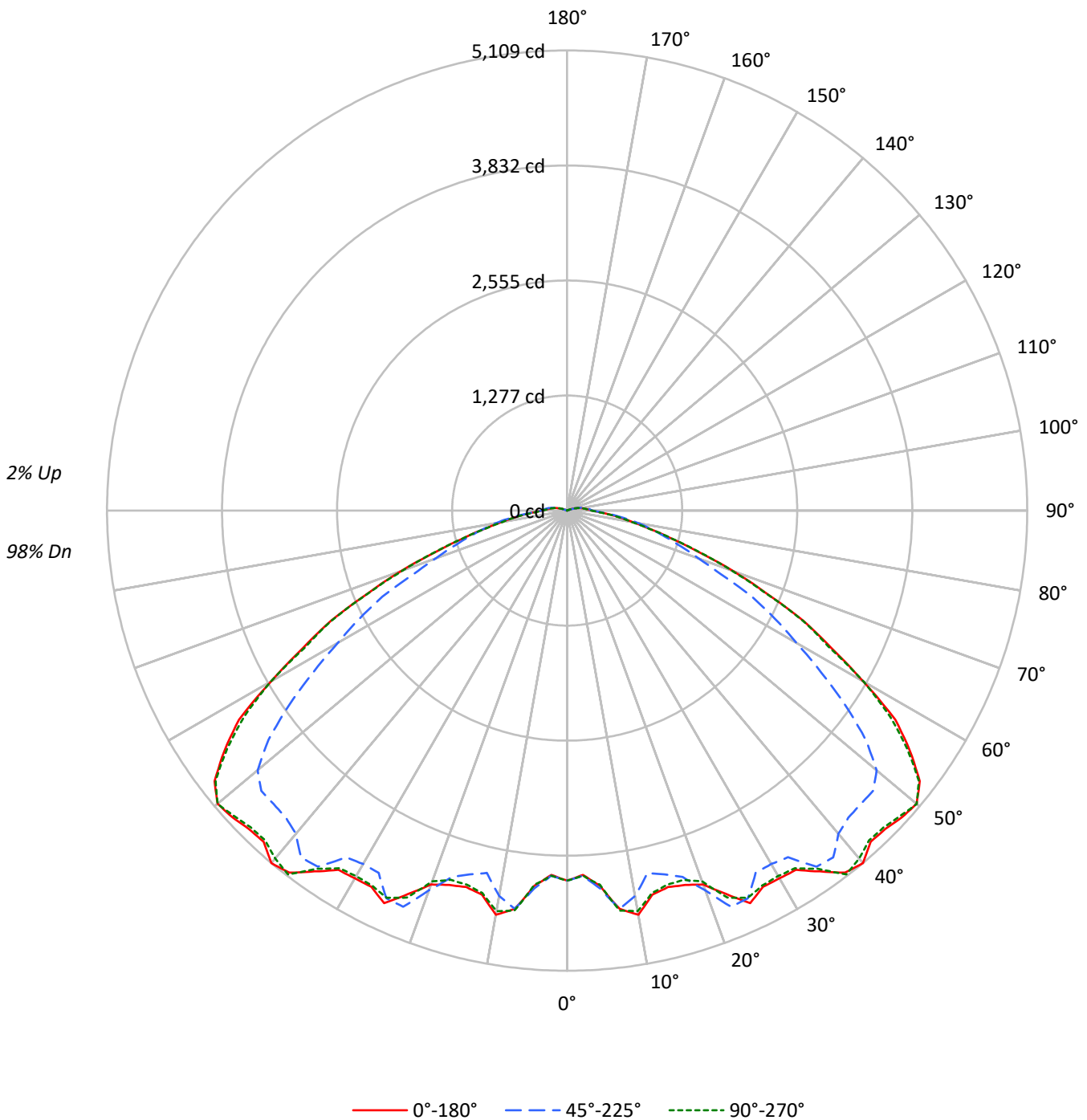
Input Watts (W): 113.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P294498

CATALOG NUMBER: BMK-18-WCL-UNV-L840-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P294498

CATALOG NUMBER: BMK-18-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°	31673	31673	31673
5°	32021	32253	31941
10°	34932	33320	34620
15°	33471	32348	33249
20°	34729	35276	34432
25°	38750	38262	38226
30°	39255	37731	39016
35°	42478	41926	42149
40°	46732	42856	46123
45°	48682	44880	48417
50°	53179	47094	53195
55°	53329	43338	52912
60°	48529	37586	48568
65°	42022	32878	41912
70°	33237	26353	32903
75°	24758	23231	24915
80°	19630	21271	19191
85°	17209	18174	16756



TEST NUMBER: P294498

CATALOG NUMBER: BMK-18-WCL-UNV-L840-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	412.7	2.2
10°-20°	1213.9	6.4
20°-30°	2122.5	11.2
30°-40°	3022.5	16.0
40°-50°	3741.0	19.8
50°-60°	3721.3	19.7
60°-70°	2522.3	13.3
70°-80°	1250.8	6.6
80°-90°	521.7	2.8
90°-100°	245.5	1.3
100°-110°	106.7	0.6
110°-120°	13.8	0.1
120°-130°	0.4	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°	3749.0	19.8
0°-40°	6771.5	35.8
0°-60°	14233.8	75.3
0°-90°	18528.6	98.1
90°-120°	366.1	1.9
90°-150°	366.4	1.9
90°-180°	366.0	1.9
0°-180°	18895.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4108	4108	4108	4108	4108	
5°	4181	4164	4211	4183	4171	415
15°	4328	4172	4183	4180	4299	1242
25°	4809	4522	4749	4504	4744	2166
35°	4891	4906	4827	4918	4853	3084
45°	4998	4846	4608	4827	4971	3894
55°	4644	4216	3774	4184	4608	4101
65°	2893	2515	2264	2526	2886	2833
75°	1202	1124	1127	1136	1209	1325
85°	460	448	486	446	448	434
90°	275	294	280	290	271	156
95°	210	226	235	222	209	162
105°	101	97	94	98	101	107
115°	8	9	11	9	8	14
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



TEST NUMBER: P294498

CATALOG NUMBER: BMK-18-WCL-UNV-L840-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4108.5	4108.5	4108.5	4108.5	4108.5
2.5°	4048.0	4064.6	4058.6	4052.5	4058.6
5°	4181.1	4164.5	4211.4	4182.7	4170.6
7.5°	4461.1	4420.2	4458.1	4421.8	4479.3
10°	4556.4	4488.3	4346.1	4471.7	4515.6
12.5°	4367.3	4300.7	4120.6	4312.8	4349.1
15°	4327.9	4172.1	4182.7	4179.6	4299.2
17.5°	4356.7	4170.6	4264.4	4173.6	4299.2
20°	4417.2	4334.0	4486.8	4337.0	4379.4
22.5°	4607.9	4535.2	4760.7	4532.2	4650.3
25°	4809.1	4521.6	4748.6	4503.5	4744.1
27.5°	4709.3	4548.9	4533.7	4530.7	4692.6
30°	4713.8	4598.8	4530.7	4610.9	4685.1
32.5°	4728.9	4691.1	4564.0	4707.8	4707.8
35°	4890.9	4906.0	4827.3	4918.1	4853.0
37.5°	5067.9	4904.5	4853.0	4909.0	5092.1
40°	5108.8	4821.3	4685.1	4815.2	5042.2
42.5°	4987.7	4859.1	4623.0	4844.0	4963.5
45°	4998.3	4845.5	4607.9	4827.3	4971.1
47.5°	5040.7	4937.8	4606.4	4922.6	5018.0
50°	5064.9	4754.7	4485.3	4753.2	5066.4
52.5°	4934.7	4527.7	4178.1	4521.6	4919.6
55°	4644.2	4215.9	3774.1	4184.2	4607.9
57.5°	4320.4	3857.3	3344.3	3831.6	4250.8
60°	3798.3	3407.9	2941.8	3401.8	3801.3
62.5°	3308.0	3037.1	2601.3	3028.0	3273.2
65°	2893.4	2515.0	2263.8	2525.6	2885.8
67.5°	2384.9	2091.3	1844.7	2092.8	2371.3
70°	1958.2	1752.4	1552.6	1738.7	1938.5
72.5°	1536.0	1419.4	1322.6	1414.9	1540.5
75°	1201.5	1124.4	1127.4	1136.5	1209.1
77.5°	939.7	900.4	960.9	904.9	932.2
80°	741.5	720.3	803.5	720.3	724.9
82.5°	590.2	570.5	637.1	572.0	588.7
85°	460.0	447.9	485.8	446.4	447.9
87.5°	345.0	351.1	355.6	352.6	335.9
90°	275.4	293.6	280.0	290.5	270.9
92.5°	242.1	257.3	257.3	261.8	236.1
95°	210.3	225.5	234.6	222.4	208.8
97.5°	183.1	198.2	208.8	198.2	183.1
100°	157.4	168.0	178.6	164.9	154.4
102.5°	131.7	136.2	139.2	136.2	130.1
105°	101.4	96.8	93.8	98.4	101.4
107.5°	71.1	66.6	56.0	66.6	74.1
110°	42.4	39.3	33.3	39.3	45.4



TEST NUMBER: P294498

CATALOG NUMBER: BMK-18-WCL-UNV-L840-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	21.2	19.7	19.7	21.2	22.7
115°	7.6	9.1	10.6	9.1	7.6
117.5°	3.0	4.5	4.5	4.5	3.0
120°	3.0	3.0	3.0	3.0	3.0
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)