

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: P294499

Luminaire Tested: **BMK-18-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: P294499
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-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: 18990.0 lumens
Efficiency: N/A
Efficacy: 166.9 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

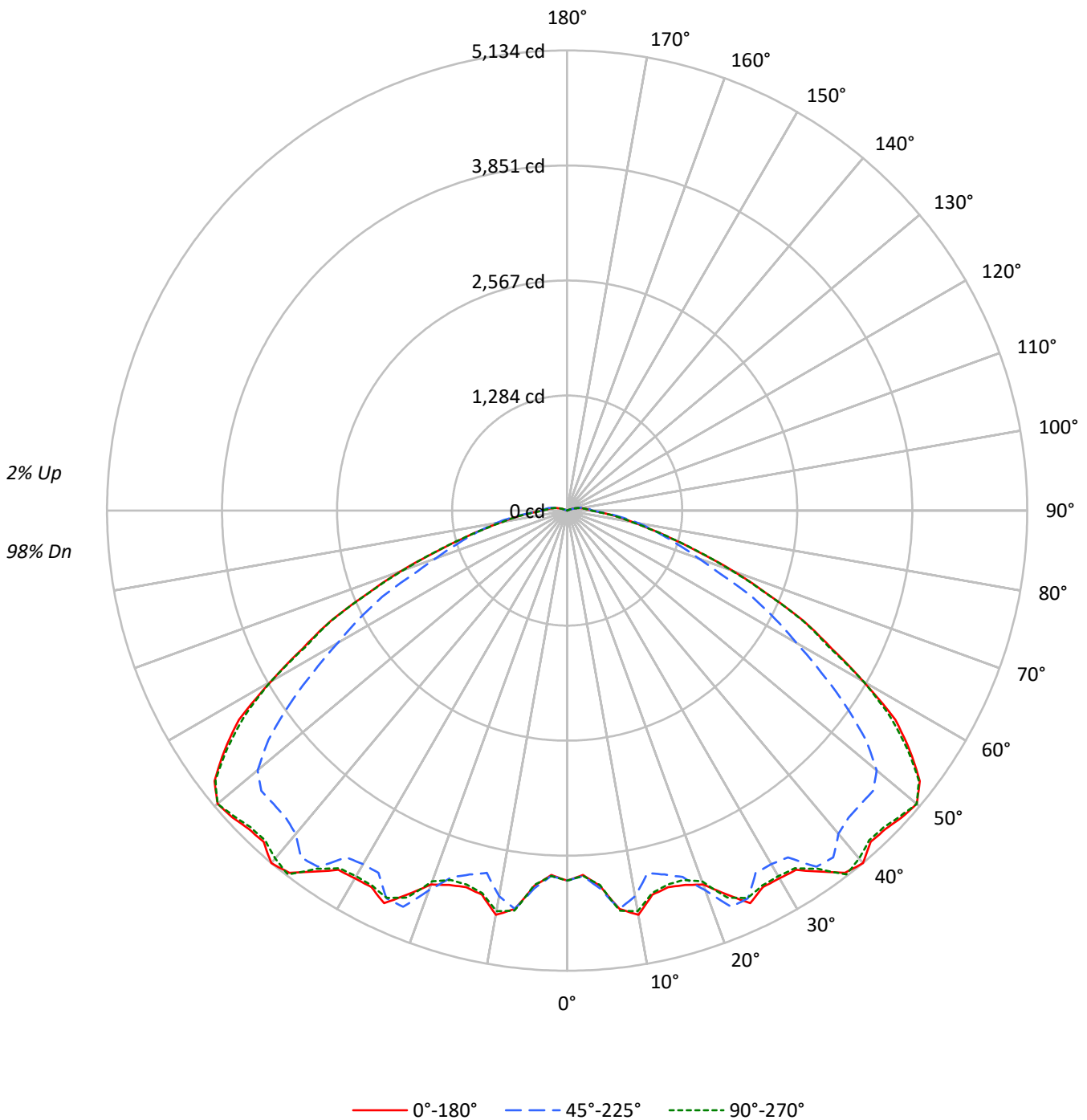
Input Watts (W): 113.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	31832	31832	31832
5°	32183	32416	32101
10°	35108	33487	34794
15°	33639	32510	33416
20°	34904	35454	34605
25°	38945	38455	38418
30°	39453	37921	39212
35°	42692	42137	42361
40°	46967	43071	46354
45°	48926	45106	48661
50°	53447	47331	53463
55°	53597	43556	53178
60°	48774	37775	48812
65°	42233	33044	42123
70°	33404	26485	33067
75°	24884	23347	25040
80°	19728	21380	19286
85°	17295	18264	16842



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	414.7	2.2
10°-20°	1220.0	6.4
20°-30°	2133.2	11.2
30°-40°	3037.7	16.0
40°-50°	3759.8	19.8
50°-60°	3740.0	19.7
60°-70°	2535.0	13.3
70°-80°	1257.0	6.6
80°-90°	524.4	2.8
90°-100°	246.7	1.3
100°-110°	107.3	0.6
110°-120°	13.9	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°	3767.8	19.8
0°-40°	6805.5	35.8
0°-60°	14305.3	75.3
0°-90°	18621.7	98.1
90°-120°	367.9	1.9
90°-150°	368.2	1.9
90°-180°	368.0	1.9
0°-180°	18990.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4129	4129	4129	4129	4129	
5°	4202	4185	4233	4204	4192	417
15°	4350	4193	4204	4201	4321	1248
25°	4833	4544	4772	4526	4768	2177
35°	4916	4931	4852	4943	4877	3100
45°	5023	4870	4631	4852	4996	3914
55°	4668	4237	3793	4205	4631	4121
65°	2908	2528	2275	2538	2900	2848
75°	1208	1130	1133	1142	1215	1332
85°	462	450	488	449	450	436
90°	277	295	281	292	272	157
95°	211	227	236	224	210	162
105°	102	97	94	99	102	108
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



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4129.2	4129.2	4129.2	4129.2	4129.2
2.5°	4068.3	4085.1	4079.0	4072.9	4079.0
5°	4202.2	4185.4	4232.6	4203.7	4191.5
7.5°	4483.5	4442.5	4480.5	4444.0	4501.8
10°	4579.3	4510.9	4367.9	4494.2	4538.3
12.5°	4389.2	4322.3	4141.3	4334.5	4371.0
15°	4349.7	4193.0	4203.7	4200.6	4320.8
17.5°	4378.6	4191.5	4285.8	4194.6	4320.8
20°	4439.4	4355.8	4509.4	4358.8	4401.4
22.5°	4631.1	4558.1	4784.7	4555.0	4673.6
25°	4833.3	4544.4	4772.5	4526.1	4767.9
27.5°	4733.0	4571.7	4556.5	4553.5	4716.2
30°	4737.5	4621.9	4553.5	4634.1	4708.6
32.5°	4752.7	4714.7	4586.9	4731.4	4731.4
35°	4915.5	4930.7	4851.6	4942.8	4877.4
37.5°	5093.4	4929.1	4877.4	4933.7	5117.7
40°	5134.5	4845.5	4708.6	4839.4	5067.5
42.5°	5012.8	4883.5	4646.3	4868.3	4988.5
45°	5023.4	4869.8	4631.1	4851.6	4996.1
47.5°	5066.0	4962.6	4629.5	4947.4	5043.2
50°	5090.4	4778.6	4507.9	4777.1	5091.9
52.5°	4959.6	4550.4	4199.1	4544.4	4944.4
55°	4667.6	4237.1	3793.1	4205.2	4631.1
57.5°	4342.1	3876.7	3361.1	3850.8	4272.1
60°	3817.4	3425.0	2956.6	3418.9	3820.4
62.5°	3324.6	3052.4	2614.4	3043.3	3289.6
65°	2907.9	2527.7	2275.2	2538.3	2900.3
67.5°	2396.9	2101.8	1853.9	2103.4	2383.2
70°	1968.0	1761.2	1560.4	1747.5	1948.2
72.5°	1543.7	1426.6	1329.2	1422.0	1548.2
75°	1207.6	1130.0	1133.0	1142.2	1215.2
77.5°	944.5	904.9	965.8	909.5	936.9
80°	745.2	723.9	807.6	723.9	728.5
82.5°	593.1	573.4	640.3	574.9	591.6
85°	462.3	450.2	488.2	448.7	450.2
87.5°	346.8	352.8	357.4	354.4	337.6
90°	276.8	295.0	281.4	292.0	272.2
92.5°	243.3	258.5	258.5	263.1	237.3
95°	211.4	226.6	235.7	223.6	209.9
97.5°	184.0	199.2	209.9	199.2	184.0
100°	158.2	168.8	179.5	165.8	155.1
102.5°	132.3	136.9	139.9	136.9	130.8
105°	101.9	97.3	94.3	98.9	101.9
107.5°	71.5	66.9	56.3	66.9	74.5
110°	42.6	39.5	33.5	39.5	45.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	21.3	19.8	19.8	21.3	22.8
115°	7.6	9.1	10.6	9.1	7.6
117.5°	3.0	4.6	4.6	4.6	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)