

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: P294463

Luminaire Tested: **BMK-18-WFL-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: P294463
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-103-3)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-18-WFL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH WIDE FROSTED 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: 18450.0 lumens
Efficiency: N/A
Efficacy: 162.1 lumens/watt
Spacing Criteria (0/90/45): 1.7 / 1.7 / 1.72
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

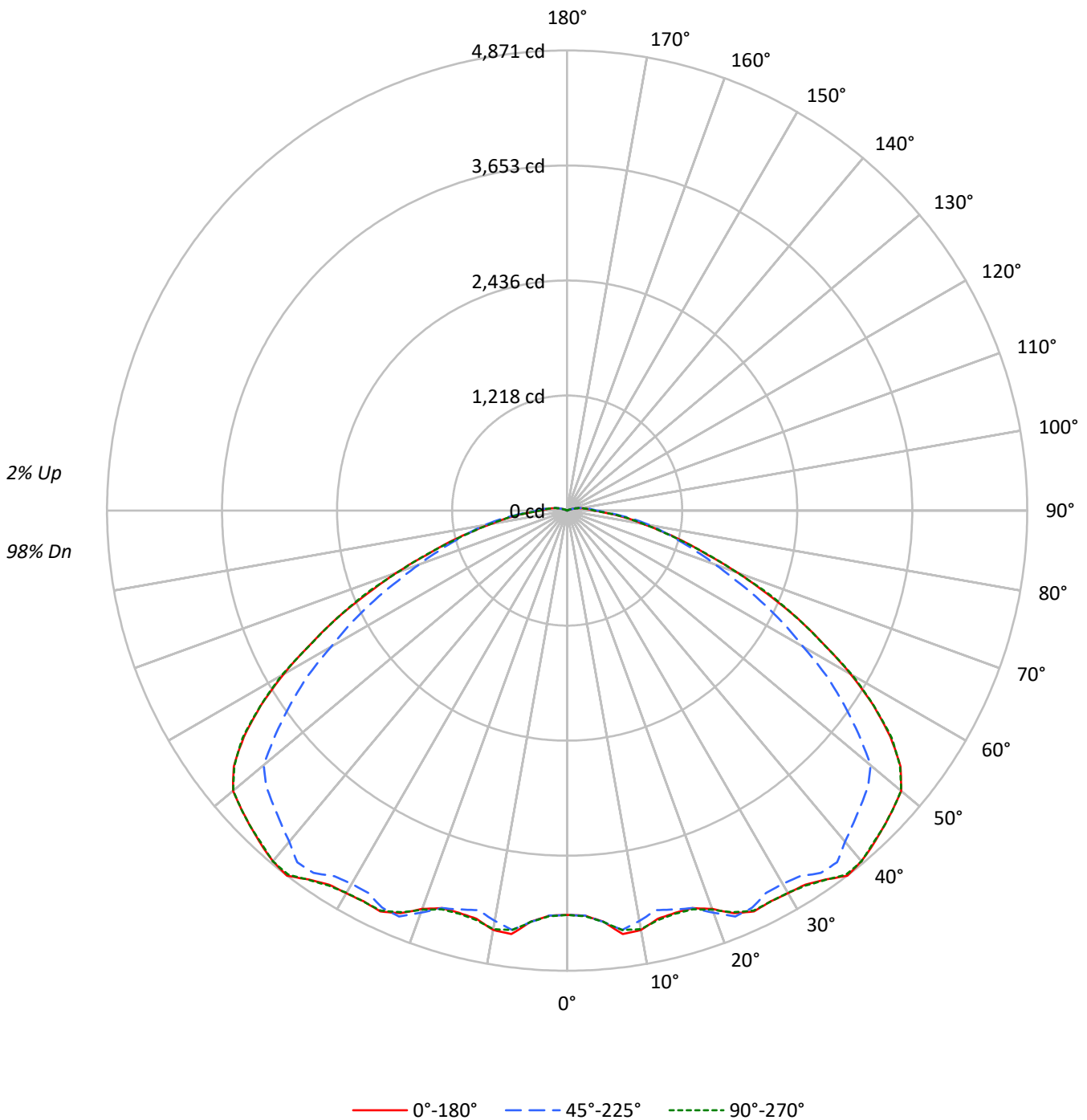
Input Watts (W): 113.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	100	100	100	100	100	100	98		
1	107	102	97	93	104	100	95	92	95	91	88	91	88	85	87	84	82	87	84	82	87	84	82	80		
2	97	88	81	75	94	86	79	74	82	76	72	78	74	70	75	71	68	75	71	68	75	71	68	65		
3	88	77	68	61	85	75	67	60	71	65	59	68	62	58	65	61	56	65	61	56	65	61	56	54		
4	80	67	58	51	77	66	57	50	63	55	49	60	54	48	58	52	47	58	52	47	58	52	47	45		
5	73	59	50	43	71	58	49	43	56	48	42	53	47	41	51	45	41	51	45	41	51	45	41	38		
6	67	53	44	37	65	52	43	37	50	42	36	48	41	36	46	40	35	46	40	35	46	40	35	33		
7	62	48	38	32	60	47	38	32	45	37	31	43	36	31	42	35	31	42	35	31	42	35	31	29		
8	57	43	34	28	56	42	34	28	41	33	28	39	32	27	38	32	27	38	32	27	38	32	27	25		
9	53	39	31	25	52	39	30	25	37	30	25	36	29	24	35	29	24	35	29	24	35	29	24	22		
10	50	36	28	22	48	35	28	22	34	27	22	33	27	22	32	26	22	32	26	22	32	26	22	20		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	32993	32993	32993
5°	33439	33462	33458
10°	34562	33813	34480
15°	34093	33802	34160
20°	35280	35611	35348
25°	37713	37369	37639
30°	38944	37987	38902
35°	41411	40673	41450
40°	44335	41864	44326
45°	46131	42872	46136
50°	48470	44016	48444
55°	47975	41026	48163
60°	44330	36901	44576
65°	38971	32766	38933
70°	32545	28288	32327
75°	26629	25267	26075
80°	21663	23360	21933
85°	18930	20587	19218



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	421.9	2.3
10°-20°	1249.0	6.8
20°-30°	2124.5	11.5
30°-40°	2958.7	16.0
40°-50°	3540.4	19.2
50°-60°	3442.8	18.7
60°-70°	2442.4	13.2
70°-80°	1330.1	7.2
80°-90°	583.0	3.2
90°-100°	242.2	1.3
100°-110°	99.4	0.5
110°-120°	15.3	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°	3795.4	20.6
0°-40°	6754.1	36.6
0°-60°	13737.2	74.5
0°-90°	18092.7	98.1
90°-120°	357.0	1.9
90°-150°	357.3	1.9
90°-180°	357.0	1.9
0°-180°	18450.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4280	4280	4280	4280	4280	
5°	4366	4359	4369	4361	4369	424
15°	4408	4352	4371	4344	4417	1257
25°	4680	4559	4638	4564	4671	2147
35°	4768	4772	4683	4756	4772	3002
45°	4736	4582	4402	4588	4737	3665
55°	4178	3865	3573	3872	4194	3695
65°	2683	2450	2256	2453	2681	2649
75°	1292	1210	1226	1214	1265	1385
85°	506	505	550	509	514	478
90°	282	304	311	304	286	162
95°	206	217	232	220	209	157
105°	90	91	90	92	90	98
115°	8	11	13	11	9	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°	4279.7	4279.7	4279.7	4279.7	4279.7
2.5°	4290.4	4287.9	4290.9	4291.9	4296.5
5°	4366.2	4359.1	4369.2	4360.6	4368.7
7.5°	4521.3	4485.7	4477.1	4474.5	4478.6
10°	4508.1	4482.6	4410.4	4481.6	4497.4
12.5°	4426.2	4399.7	4332.1	4397.2	4440.9
15°	4408.4	4352.5	4370.8	4344.3	4417.0
17.5°	4410.9	4361.1	4412.0	4357.0	4424.7
20°	4487.2	4455.2	4529.4	4451.6	4495.9
22.5°	4614.4	4558.4	4650.0	4541.1	4602.2
25°	4680.5	4559.4	4637.8	4564.0	4671.3
27.5°	4663.2	4582.8	4561.0	4582.3	4665.7
30°	4676.4	4631.2	4561.5	4623.5	4671.3
32.5°	4693.7	4666.8	4587.9	4663.7	4703.9
35°	4768.0	4771.5	4683.0	4756.3	4772.5
37.5°	4870.7	4758.3	4692.7	4750.7	4854.4
40°	4846.8	4695.7	4576.7	4695.2	4845.8
42.5°	4793.9	4654.5	4485.2	4656.6	4785.3
45°	4736.4	4582.3	4401.8	4587.9	4736.9
47.5°	4677.9	4554.9	4319.9	4549.3	4677.9
50°	4616.4	4396.7	4192.2	4397.7	4613.9
52.5°	4449.1	4165.8	3888.1	4165.8	4440.9
55°	4178.0	3864.7	3572.8	3872.3	4194.3
57.5°	3847.4	3571.3	3253.9	3567.7	3851.5
60°	3469.6	3185.3	2888.2	3205.6	3488.9
62.5°	3059.1	2856.7	2575.5	2838.9	3056.6
65°	2683.3	2450.4	2256.1	2452.9	2680.7
67.5°	2277.4	2093.3	1933.6	2090.3	2314.1
70°	1917.4	1763.8	1666.6	1763.8	1904.6
72.5°	1560.8	1483.0	1434.2	1480.0	1578.1
75°	1292.3	1210.4	1226.2	1214.5	1265.4
77.5°	1031.9	991.2	1049.7	991.7	1025.3
80°	818.3	809.7	882.4	807.1	828.5
82.5°	656.1	646.4	715.1	643.4	663.2
85°	506.0	505.0	550.3	509.1	513.7
87.5°	373.8	387.0	407.9	389.1	374.3
90°	282.3	304.1	310.7	303.6	285.8
92.5°	241.6	256.3	266.0	255.8	245.6
95°	206.5	217.2	232.4	219.7	209.0
97.5°	175.0	185.1	195.8	185.1	176.5
100°	145.5	152.6	162.7	153.6	147.0
102.5°	120.0	121.6	126.6	123.6	119.5
105°	90.0	91.0	89.5	91.5	90.5
107.5°	65.1	64.1	60.0	65.6	64.6
110°	40.7	40.7	39.7	41.2	40.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	21.4	22.9	24.9	22.9	22.4
115°	8.1	11.2	13.2	10.7	8.6
117.5°	3.6	5.1	5.6	5.1	3.6
120°	3.1	3.6	3.1	3.1	3.1
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)