

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: P294481

Luminaire Tested: **BMK-36-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: P294481
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-36-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: 36028.0 lumens
Efficiency: N/A
Efficacy: 148.3 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

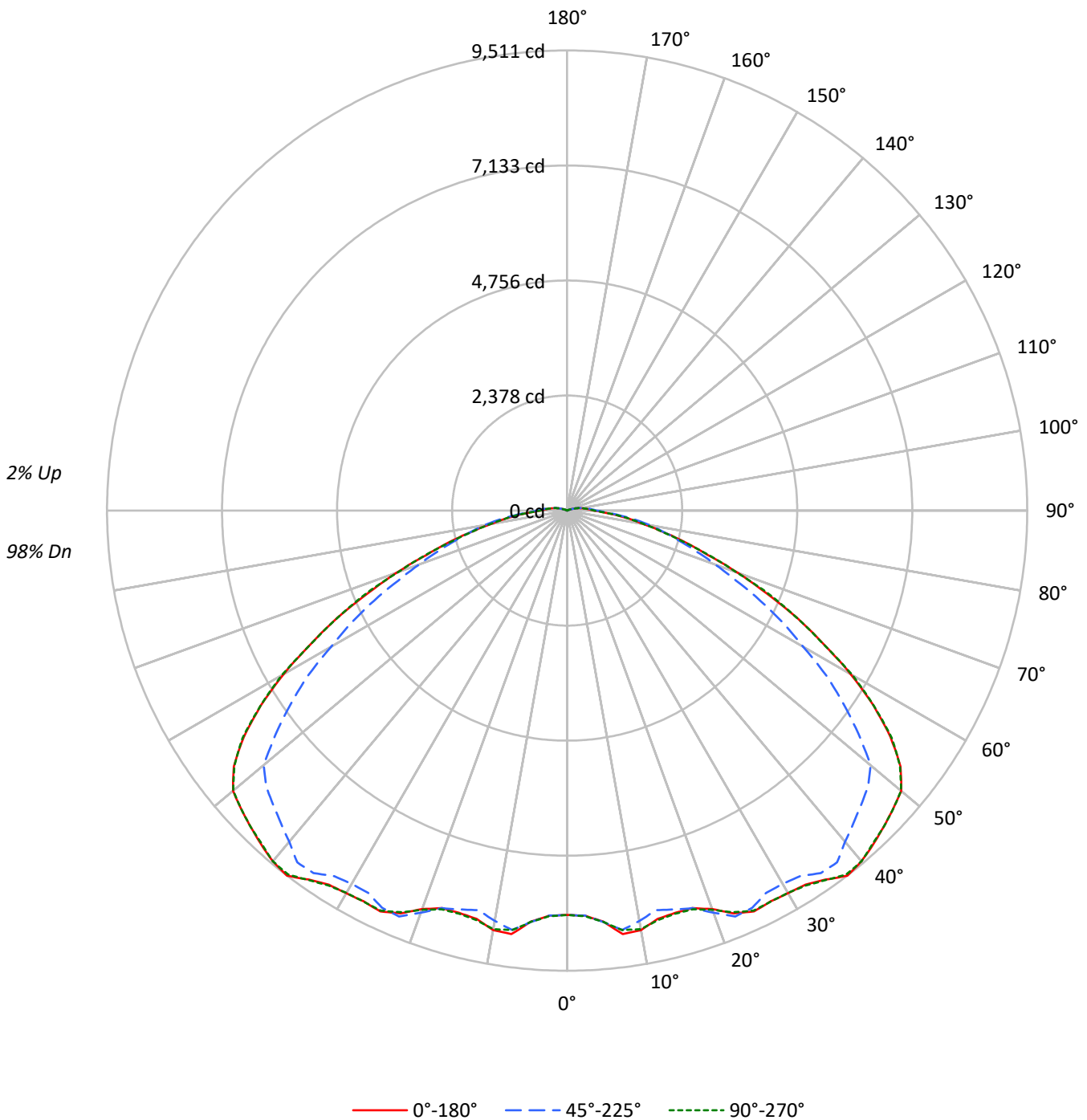
Input Watts (W): 243
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	64426	64426	64426
5°	65297	65343	65335
10°	67490	66028	67330
15°	66575	66006	66705
20°	68892	69540	69025
25°	73644	72972	73500
30°	76048	74179	75965
35°	80864	79423	80941
40°	86575	81751	86556
45°	90083	83718	90092
50°	94650	85954	94598
55°	93683	80113	94048
60°	86563	72060	87046
65°	76099	63983	76028
70°	63550	55240	63129
75°	51999	49339	50915
80°	42302	45616	42829
85°	36969	40201	37526



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	824.0	2.3
10°-20°	2438.9	6.8
20°-30°	4148.5	11.5
30°-40°	5777.6	16.0
40°-50°	6913.4	19.2
50°-60°	6722.8	18.7
60°-70°	4769.4	13.2
70°-80°	2597.3	7.2
80°-90°	1138.4	3.2
90°-100°	473.0	1.3
100°-110°	194.2	0.5
110°-120°	29.9	0.1
120°-130°	0.7	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°	7411.4	20.6
0°-40°	13189.0	36.6
0°-60°	26825.2	74.5
0°-90°	35330.2	98.1
90°-120°	697.1	1.9
90°-150°	697.8	1.9
90°-180°	698.0	1.9
0°-180°	36028.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8357	8357	8357	8357	8357	
5°	8526	8512	8532	8515	8531	828
15°	8608	8499	8535	8483	8625	2455
25°	9140	8903	9056	8912	9122	4193
35°	9311	9318	9145	9288	9320	5862
45°	9249	8948	8596	8959	9250	7156
55°	8158	7547	6977	7562	8190	7215
65°	5240	4785	4406	4790	5235	5172
75°	2524	2364	2394	2372	2471	2705
85°	988	986	1075	994	1003	934
90°	551	594	607	593	558	316
95°	403	424	454	429	408	306
105°	176	178	175	179	177	191
115°	16	22	26	21	17	27
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



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8357.2	8357.2	8357.2	8357.2	8357.2
2.5°	8378.0	8373.1	8379.0	8381.0	8389.9
5°	8526.0	8512.1	8532.0	8515.1	8531.0
7.5°	8828.9	8759.4	8742.5	8737.5	8745.5
10°	8803.1	8753.4	8612.4	8751.4	8782.2
12.5°	8643.2	8591.6	8459.5	8586.6	8672.0
15°	8608.4	8499.2	8534.9	8483.3	8625.3
17.5°	8613.4	8516.1	8615.4	8508.1	8640.2
20°	8762.4	8699.8	8844.8	8692.9	8779.3
22.5°	9010.7	8901.4	9080.2	8867.6	8986.8
25°	9139.8	8903.4	9056.3	8912.3	9121.9
27.5°	9106.0	8949.1	8906.4	8948.1	9111.0
30°	9131.8	9043.4	8907.4	9028.5	9121.9
32.5°	9165.6	9112.9	8959.0	9107.0	9185.4
35°	9310.6	9317.5	9144.7	9287.7	9319.5
37.5°	9511.2	9291.7	9163.6	9276.8	9479.4
40°	9464.5	9169.6	8937.2	9168.6	9462.5
42.5°	9361.2	9089.1	8758.4	9093.1	9344.3
45°	9249.0	8948.1	8595.5	8959.0	9250.0
47.5°	9134.8	8894.5	8435.6	8883.5	9134.8
50°	9014.6	8585.6	8186.4	8587.6	9009.7
52.5°	8687.9	8134.7	7592.5	8134.7	8672.0
55°	8158.5	7546.8	6976.7	7561.7	8190.3
57.5°	7513.0	6973.7	6354.0	6966.8	7521.0
60°	6775.1	6220.0	5640.0	6259.7	6812.9
62.5°	5973.7	5578.4	5029.2	5543.6	5968.7
65°	5239.7	4784.9	4405.5	4789.9	5234.8
67.5°	4447.2	4087.7	3775.9	4081.8	4518.7
70°	3744.1	3444.2	3254.5	3444.2	3719.3
72.5°	3047.9	2896.0	2800.6	2890.0	3081.7
75°	2523.5	2363.6	2394.4	2371.6	2470.9
77.5°	2015.1	1935.6	2049.8	1936.6	2002.1
80°	1597.9	1581.1	1723.1	1576.1	1617.8
82.5°	1281.1	1262.3	1396.3	1256.3	1295.0
85°	988.2	986.2	1074.6	994.1	1003.1
87.5°	729.9	755.8	796.5	759.7	730.9
90°	551.2	593.9	606.8	592.9	558.1
92.5°	471.7	500.5	519.4	499.5	479.7
95°	403.2	424.1	453.9	429.0	408.2
97.5°	341.6	361.5	382.4	361.5	344.6
100°	284.0	297.9	317.8	299.9	287.0
102.5°	234.4	237.4	247.3	241.3	233.4
105°	175.8	177.8	174.8	178.8	176.8
107.5°	127.1	125.1	117.2	128.1	126.1
110°	79.5	79.5	77.5	80.4	79.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	41.7	44.7	48.7	44.7	43.7
115°	15.9	21.8	25.8	20.9	16.9
117.5°	7.0	9.9	10.9	9.9	7.0
120°	6.0	7.0	6.0	6.0	6.0
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)