

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: P294577

Luminaire Tested: **BMK-24-NCL-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: P294577
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1903-198-7)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-24-NCL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW 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: 24633.0 lumens
Efficiency: N/A
Efficacy: 158.4 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

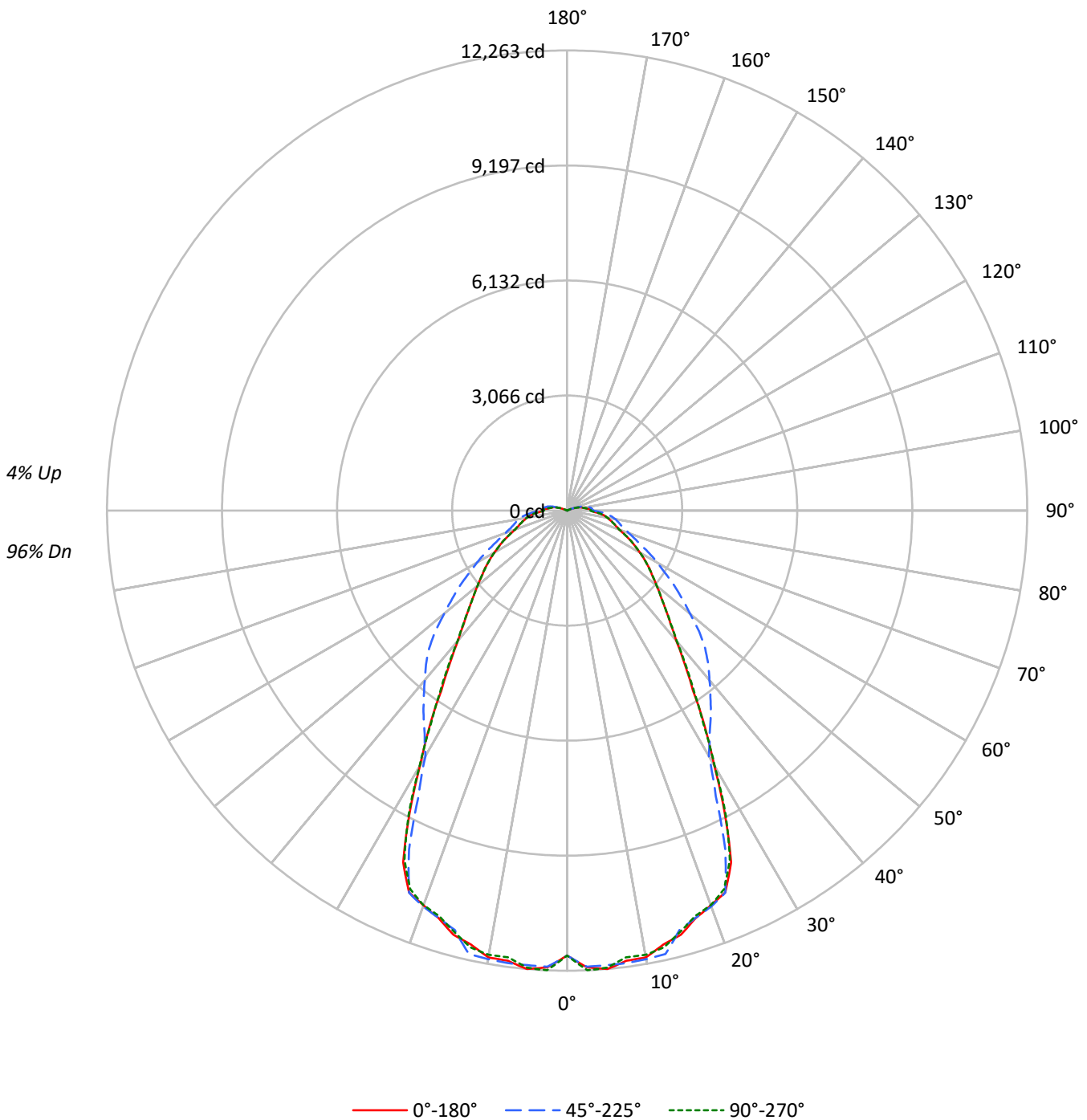
Input Watts (W): 155.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96
1	108	103	99	95	105	100	96	93	95	92	89	91	88	86	86	84	82	80
2	99	91	84	79	96	89	83	78	84	79	75	81	76	73	77	74	71	68
3	91	81	73	67	88	79	72	66	76	70	65	72	67	63	69	65	61	59
4	84	73	65	58	82	71	64	58	68	62	56	65	60	55	63	58	54	52
5	78	66	58	51	76	65	57	51	62	55	50	60	54	49	58	52	48	46
6	73	60	52	46	71	59	51	45	57	50	45	55	49	44	53	48	43	41
7	68	55	47	41	66	54	46	41	52	45	40	51	44	40	49	43	39	37
8	64	51	43	37	62	50	42	37	48	42	37	47	41	36	45	40	36	34
9	60	47	39	34	58	46	39	34	45	38	34	44	38	33	42	37	33	31
10	56	44	36	31	55	43	36	31	42	35	31	41	35	31	40	34	30	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	91424	91424	91424
5°	93918	93130	93656
10°	92671	93058	92175
15°	90497	89482	89919
20°	88016	88270	87983
25°	83317	80322	82633
30°	65251	62914	65538
35°	50789	57929	51228
40°	41407	53972	41555
45°	36043	50660	36062
50°	32725	44899	32746
55°	30641	39942	30478
60°	28621	35384	28621
65°	26784	31625	26784
70°	25097	29759	25063
75°	26139	30386	26056
80°	28716	34439	28663
85°	32495	39296	32420



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1154.3	4.7
10°-20°	3280.9	13.3
20°-30°	4503.4	18.3
30°-40°	3948.5	16.0
40°-50°	3379.3	13.7
50°-60°	2736.7	11.1
60°-70°	2052.7	8.3
70°-80°	1495.1	6.1
80°-90°	1023.4	4.2
90°-100°	632.7	2.6
100°-110°	367.3	1.5
110°-120°	58.1	0.2
120°-130°	0.8	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°	8938.5	36.3
0°-40°	12887.0	52.3
0°-60°	19003.0	77.1
0°-90°	23574.2	95.7
90°-120°	1058.1	4.3
90°-150°	1058.9	4.3
90°-180°	1059.0	4.3
0°-180°	24633.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	11859	11859	11859	11859	11859	
5°	12263	12150	12160	12184	12229	###
15°	11702	11584	11570	11570	11627	3288
25°	10340	9952	9968	9968	10255	4576
35°	5848	6187	6670	6240	5898	3725
45°	3701	4309	5201	4272	3703	2885
55°	2668	3036	3478	3038	2654	2384
65°	1844	2113	2178	2103	1844	1829
75°	1268	1440	1475	1432	1264	1343
85°	869	943	1050	943	867	751
90°	638	662	695	650	620	362
95°	543	552	654	562	547	430
105°	337	345	432	339	333	341
115°	36	38	50	38	36	56
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°	11859.2	11859.2	11859.2	11859.2	11859.2
2.5°	12182.4	12095.6	12168.3	12216.8	12261.2
5°	12263.2	12150.1	12160.2	12184.4	12228.9
7.5°	12101.6	11980.4	12160.2	12071.3	12008.7
10°	12087.5	11891.5	12138.0	11974.4	12022.8
12.5°	11843.1	11822.9	12101.6	11901.6	11919.8
15°	11701.7	11584.5	11570.4	11570.4	11626.9
17.5°	11388.6	11317.9	11382.5	11348.2	11330.0
20°	11194.7	11162.3	11227.0	11259.3	11190.6
22.5°	11010.8	10853.3	11018.9	10881.6	10922.0
25°	10340.2	9952.4	9968.5	9968.5	10255.4
27.5°	9091.9	8865.6	8580.8	8898.0	9160.5
30°	7835.4	7902.1	7554.7	7888.0	7869.8
32.5°	6821.4	7009.3	7065.8	7017.4	6770.9
35°	5847.8	6187.2	6669.9	6239.7	5898.3
37.5°	5130.7	5597.3	6276.0	5587.2	5189.3
40°	4526.7	5082.2	5900.3	5106.5	4542.9
42.5°	4072.3	4682.3	5567.0	4658.0	4084.4
45°	3700.6	4308.6	5201.4	4272.2	3702.6
47.5°	3381.4	3963.2	4765.1	3965.2	3381.4
50°	3116.8	3589.5	4276.3	3587.5	3118.8
52.5°	2868.4	3308.7	3860.2	3284.5	2876.4
55°	2668.4	3036.0	3478.4	3038.0	2654.2
57.5°	2448.2	2787.6	3090.5	2783.5	2458.3
60°	2240.1	2543.1	2769.4	2520.9	2240.1
62.5°	2036.1	2320.9	2466.4	2323.0	2040.2
65°	1844.2	2112.9	2177.5	2102.8	1844.2
67.5°	1648.3	1910.9	1941.2	1898.8	1658.4
70°	1478.6	1741.2	1753.3	1723.0	1476.6
72.5°	1363.5	1575.6	1589.7	1579.6	1363.5
75°	1268.5	1440.2	1474.6	1432.2	1264.5
77.5°	1169.6	1311.0	1389.7	1313.0	1177.6
80°	1084.7	1189.8	1300.9	1191.8	1082.7
82.5°	995.8	1074.6	1197.8	1078.7	1003.9
85°	868.6	943.3	1050.4	943.3	866.6
87.5°	707.0	799.9	866.6	793.8	694.9
90°	638.3	662.5	694.9	650.4	620.1
92.5°	656.5	620.1	674.7	616.1	630.2
95°	543.4	551.5	654.5	561.6	547.4
97.5°	490.9	513.1	622.1	503.0	488.8
100°	432.3	468.6	559.5	460.6	434.3
102.5°	393.9	418.1	513.1	424.2	400.0
105°	337.3	345.4	432.3	339.4	333.3
107.5°	252.5	252.5	284.8	254.5	248.5
110°	167.7	159.6	171.7	155.5	167.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	88.9	84.8	99.0	82.8	86.9
115°	36.4	38.4	50.5	38.4	36.4
117.5°	10.1	16.2	18.2	16.2	10.1
120°	6.1	8.1	6.1	8.1	6.1
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)