

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: P294587

Luminaire Tested: **BMK-36-NCL-UNV-L835-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: P294587
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-36-NCL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW CLEAR LENS
Light Source: (528) 80 CRI 3500K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

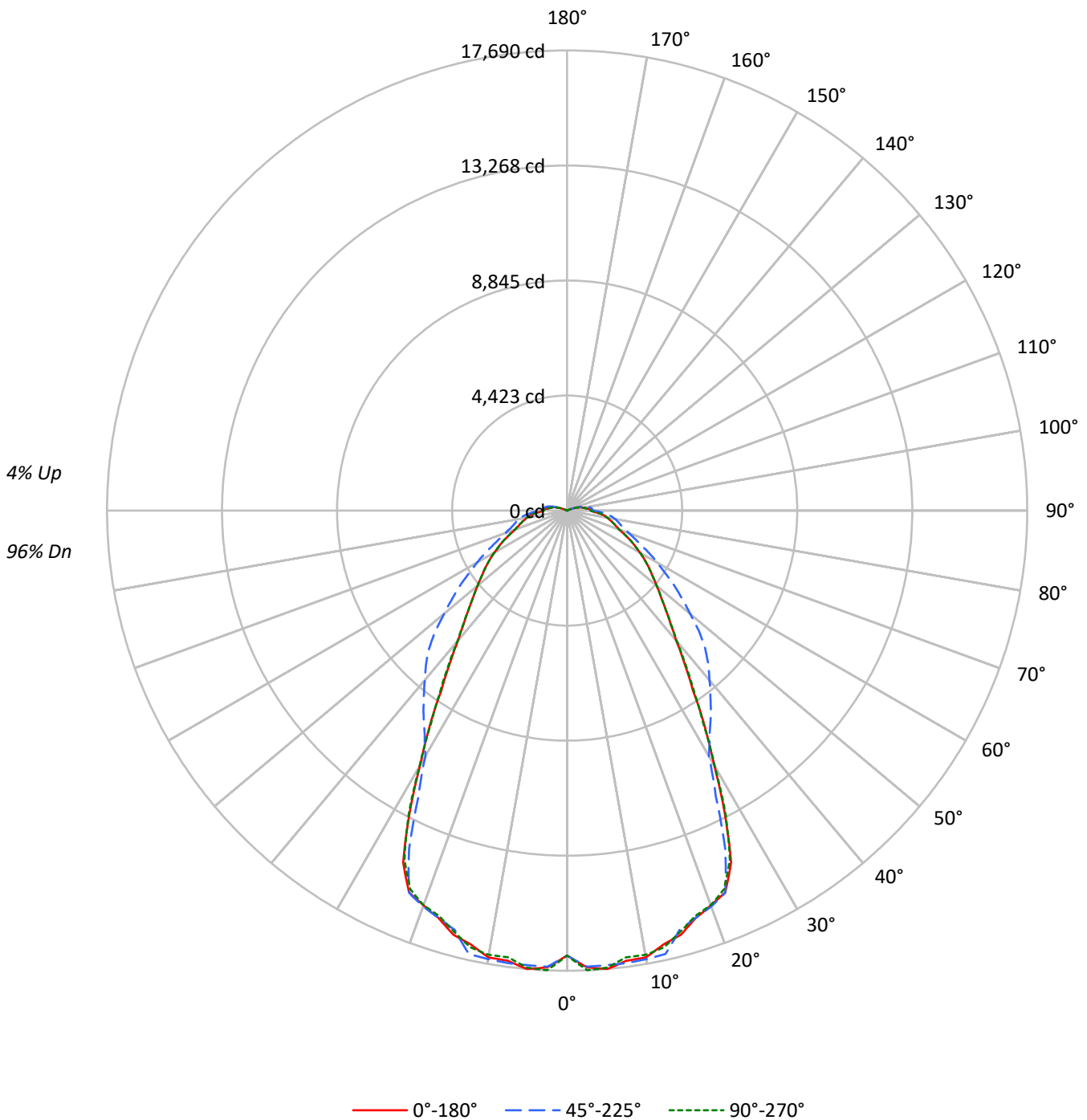
Lumens per Lamp: N/A
Luminaire Lumens: 35534.0 lumens
Efficiency: N/A
Efficacy: 146.2 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 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	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°	131882	131882	131882
5°	135481	134343	135102
10°	133680	134239	132966
15°	130545	129081	129712
20°	126965	127332	126920
25°	120187	115868	119201
30°	94128	90755	94541
35°	73265	83565	73898
40°	59732	77856	59945
45°	51993	73079	52021
50°	47207	64769	47238
55°	44200	57618	43966
60°	41288	51041	41288
65°	38638	45621	38638
70°	36204	42929	36153
75°	37707	43831	37587
80°	41426	49677	41346
85°	46875	56684	46767



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1665.1	4.7
10°-20°	4732.8	13.3
20°-30°	6496.3	18.3
30°-40°	5695.8	16.0
40°-50°	4874.8	13.7
50°-60°	3947.7	11.1
60°-70°	2961.1	8.3
70°-80°	2156.7	6.1
80°-90°	1476.3	4.2
90°-100°	912.7	2.6
100°-110°	529.8	1.5
110°-120°	83.7	0.2
120°-130°	1.2	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°	12894.1	36.3
0°-40°	18589.9	52.3
0°-60°	27412.5	77.1
0°-90°	34006.6	95.7
90°-120°	1526.3	4.3
90°-150°	1527.4	4.3
90°-180°	1527.0	4.3
0°-180°	35534.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	17107	17107	17107	17107	17107	
5°	17690	17527	17542	17576	17641	###
15°	16880	16711	16691	16691	16772	4742
25°	14916	14357	14380	14380	14794	6601
35°	8436	8925	9622	9001	8508	5374
45°	5338	6215	7503	6163	5341	4161
55°	3849	4380	5018	4382	3829	3439
65°	2660	3048	3141	3033	2660	2638
75°	1830	2078	2127	2066	1824	1937
85°	1253	1361	1515	1361	1250	1084
90°	921	956	1002	938	895	522
95°	784	796	944	810	790	620
105°	487	498	624	490	481	491
115°	52	55	73	55	52	81
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°	17107.4	17107.4	17107.4	17107.4	17107.4
2.5°	17573.6	17448.3	17553.2	17623.1	17687.2
5°	17690.1	17527.0	17541.5	17576.5	17640.6
7.5°	17457.0	17282.2	17541.5	17413.3	17323.0
10°	17436.6	17154.0	17509.5	17273.5	17343.4
12.5°	17084.0	17054.9	17457.0	17168.6	17194.8
15°	16880.1	16711.1	16690.7	16690.7	16772.3
17.5°	16428.4	16326.4	16419.7	16370.2	16343.9
20°	16148.7	16102.1	16195.3	16241.9	16142.9
22.5°	15883.5	15656.3	15895.2	15697.0	15755.3
25°	14916.1	14356.7	14380.0	14380.0	14793.7
27.5°	13115.4	12789.0	12378.1	12835.6	13214.4
30°	11302.9	11399.1	10897.9	11378.7	11352.5
32.5°	9840.2	10111.1	10192.7	10122.8	9767.3
35°	8435.7	8925.2	9621.6	9001.0	8508.5
37.5°	7401.2	8074.3	9053.4	8059.8	7485.7
40°	6530.0	7331.3	8511.4	7366.3	6553.3
42.5°	5874.4	6754.4	8030.6	6719.4	5891.9
45°	5338.2	6215.3	7503.2	6162.8	5341.1
47.5°	4877.8	5717.0	6873.8	5719.9	4877.8
50°	4496.1	5178.0	6168.7	5175.0	4499.0
52.5°	4137.7	4772.9	5568.4	4738.0	4149.4
55°	3849.2	4379.6	5017.7	4382.5	3828.8
57.5°	3531.6	4021.1	4458.2	4015.3	3546.2
60°	3231.5	3668.6	3994.9	3636.5	3231.5
62.5°	2937.2	3348.0	3557.8	3351.0	2943.0
65°	2660.4	3047.9	3141.2	3033.3	2660.4
67.5°	2377.7	2756.5	2800.2	2739.0	2392.3
70°	2133.0	2511.8	2529.2	2485.5	2130.0
72.5°	1966.9	2272.8	2293.2	2278.7	1966.9
75°	1829.9	2077.6	2127.1	2065.9	1824.1
77.5°	1687.1	1891.1	2004.7	1894.0	1698.8
80°	1564.8	1716.3	1876.5	1719.2	1561.8
82.5°	1436.5	1550.2	1727.9	1556.0	1448.2
85°	1253.0	1360.8	1515.2	1360.8	1250.1
87.5°	1019.9	1153.9	1250.1	1145.2	1002.4
90°	920.8	955.8	1002.4	938.3	894.6
92.5°	947.0	894.6	973.2	888.7	909.1
95°	783.8	795.5	944.1	810.1	789.7
97.5°	708.1	740.1	897.5	725.6	705.2
100°	623.6	676.0	807.1	664.4	626.5
102.5°	568.2	603.2	740.1	611.9	576.9
105°	486.6	498.3	623.6	489.5	480.8
107.5°	364.2	364.2	410.9	367.1	358.4
110°	241.9	230.2	247.7	224.4	241.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	128.2	122.4	142.8	119.5	125.3
115°	52.4	55.4	72.8	55.4	52.4
117.5°	14.6	23.3	26.2	23.3	14.6
120°	8.7	11.7	8.7	11.7	8.7
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)