

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: P294585

Luminaire Tested: **BMK-36-NCL-UNV-L740-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: P294585
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-L740-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW CLEAR LENS
Light Source: (528) 70 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

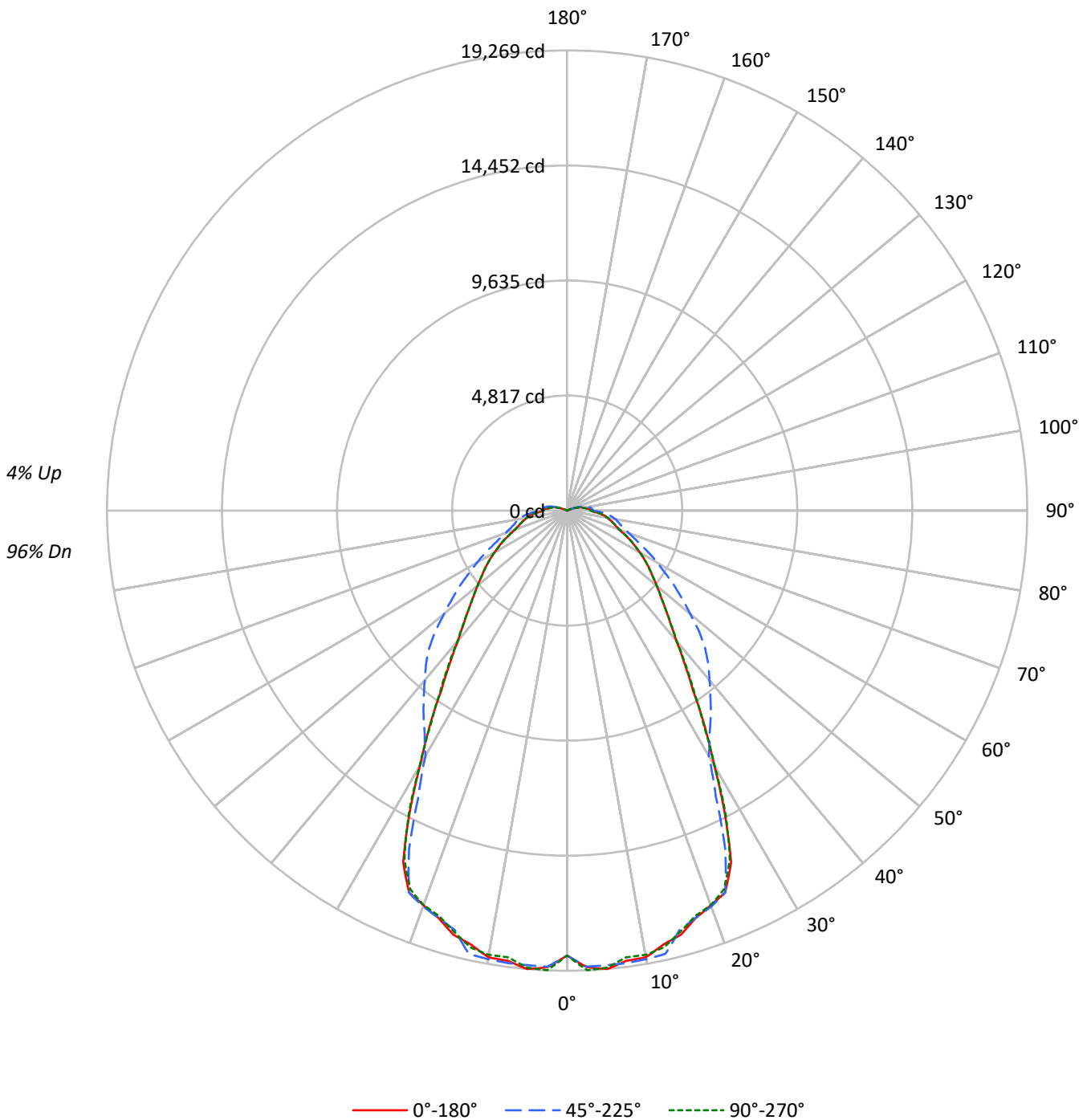
Lumens per Lamp: N/A
Luminaire Lumens: 38705.0 lumens
Efficiency: N/A
Efficacy: 159.3 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

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°	143651	143651	143651
5°	147571	146331	147158
10°	145610	146218	144831
15°	142195	140599	141287
20°	138296	138695	138245
25°	130913	126207	129838
30°	102528	98854	102977
35°	79803	91022	80492
40°	65062	84805	65294
45°	56633	79601	56664
50°	51420	70549	51453
55°	48144	62760	47889
60°	44972	55596	44972
65°	42086	49692	42086
70°	39434	46760	39380
75°	41072	47744	40942
80°	45121	54112	45037
85°	51058	61742	50938



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1813.7	4.7
10°-20°	5155.2	13.3
20°-30°	7076.0	18.3
30°-40°	6204.1	16.0
40°-50°	5309.8	13.7
50°-60°	4300.0	11.1
60°-70°	3225.3	8.3
70°-80°	2349.2	6.1
80°-90°	1608.0	4.2
90°-100°	994.2	2.6
100°-110°	577.1	1.5
110°-120°	91.2	0.2
120°-130°	1.3	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°	14044.8	36.3
0°-40°	20248.9	52.3
0°-60°	29858.7	77.1
0°-90°	37041.2	95.7
90°-120°	1662.4	4.3
90°-150°	1663.7	4.3
90°-180°	1664.0	4.3
0°-180°	38705.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	18634	18634	18634	18634	18634	
5°	19269	19091	19107	19145	19215	###
15°	18386	18202	18180	18180	18269	5166
25°	16247	15638	15663	15663	16114	7190
35°	9188	9722	10480	9804	9268	5853
45°	5815	6770	8173	6713	5818	4533
55°	4193	4770	5466	4774	4170	3746
65°	2898	3320	3422	3304	2898	2873
75°	1993	2263	2317	2250	1987	2110
85°	1365	1482	1650	1482	1362	1181
90°	1003	1041	1092	1022	974	568
95°	854	866	1028	882	860	676
105°	530	543	679	533	524	535
115°	57	60	79	60	57	88
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°	18634.0	18634.0	18634.0	18634.0	18634.0
2.5°	19141.8	19005.3	19119.6	19195.8	19265.6
5°	19268.8	19091.0	19106.9	19145.0	19214.8
7.5°	19014.9	18824.4	19106.9	18967.3	18868.9
10°	18992.6	18684.8	19072.0	18814.9	18891.1
12.5°	18608.6	18576.9	19014.9	18700.6	18729.2
15°	18386.4	18202.3	18180.1	18180.1	18269.0
17.5°	17894.5	17783.4	17885.0	17831.0	17802.4
20°	17589.8	17539.0	17640.6	17691.3	17583.4
22.5°	17301.0	17053.4	17313.7	17097.8	17161.3
25°	16247.2	15637.8	15663.2	15663.2	16113.9
27.5°	14285.7	13930.3	13482.7	13981.1	14393.7
30°	12311.6	12416.3	11870.4	12394.1	12365.5
32.5°	10718.3	11013.4	11102.3	11026.1	10638.9
35°	9188.5	9721.7	10480.2	9804.2	9267.8
37.5°	8061.7	8794.9	9861.3	8779.0	8153.8
40°	7112.7	7985.5	9271.0	8023.6	7138.1
42.5°	6398.6	7357.1	8747.3	7319.0	6417.6
45°	5814.6	6769.9	8172.8	6712.8	5817.8
47.5°	5313.1	6227.2	7487.2	6230.4	5313.1
50°	4897.3	5640.0	6719.2	5636.9	4900.5
52.5°	4506.9	5198.9	6065.3	5160.8	4519.6
55°	4192.7	4770.4	5465.5	4773.6	4170.5
57.5°	3846.8	4380.0	4856.1	4373.6	3862.6
60°	3519.9	3995.9	4351.4	3961.0	3519.9
62.5°	3199.3	3646.8	3875.3	3650.0	3205.6
65°	2897.8	3319.9	3421.5	3304.0	2897.8
67.5°	2589.9	3002.5	3050.1	2983.5	2605.8
70°	2323.3	2735.9	2754.9	2707.3	2320.1
72.5°	2142.4	2475.6	2497.9	2482.0	2142.4
75°	1993.2	2263.0	2317.0	2250.3	1986.9
77.5°	1837.7	2059.9	2183.6	2063.0	1850.4
80°	1704.4	1869.4	2044.0	1872.6	1701.2
82.5°	1564.7	1688.5	1882.1	1694.9	1577.4
85°	1364.8	1482.2	1650.4	1482.2	1361.6
87.5°	1110.9	1256.9	1361.6	1247.3	1091.8
90°	1003.0	1041.0	1091.8	1022.0	974.4
92.5°	1031.5	974.4	1060.1	968.0	990.3
95°	853.8	866.5	1028.3	882.3	860.1
97.5°	771.3	806.2	977.6	790.3	768.1
100°	679.2	736.3	879.2	723.7	682.4
102.5°	618.9	657.0	806.2	666.5	628.4
105°	530.0	542.7	679.2	533.2	523.7
107.5°	396.7	396.7	447.5	399.9	390.4
110°	263.4	250.7	269.8	244.4	263.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	139.7	133.3	155.5	130.1	136.5
115°	57.1	60.3	79.3	60.3	57.1
117.5°	15.9	25.4	28.6	25.4	15.9
120°	9.5	12.7	9.5	12.7	9.5
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)