

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: P381670

Luminaire Tested: **BMK-70-NCL-UNV-L740-CD-U**

Issue Date: 2/4/2020

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: P381670
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-3)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-70-NCL-UNV-L740-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW CLEAR LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

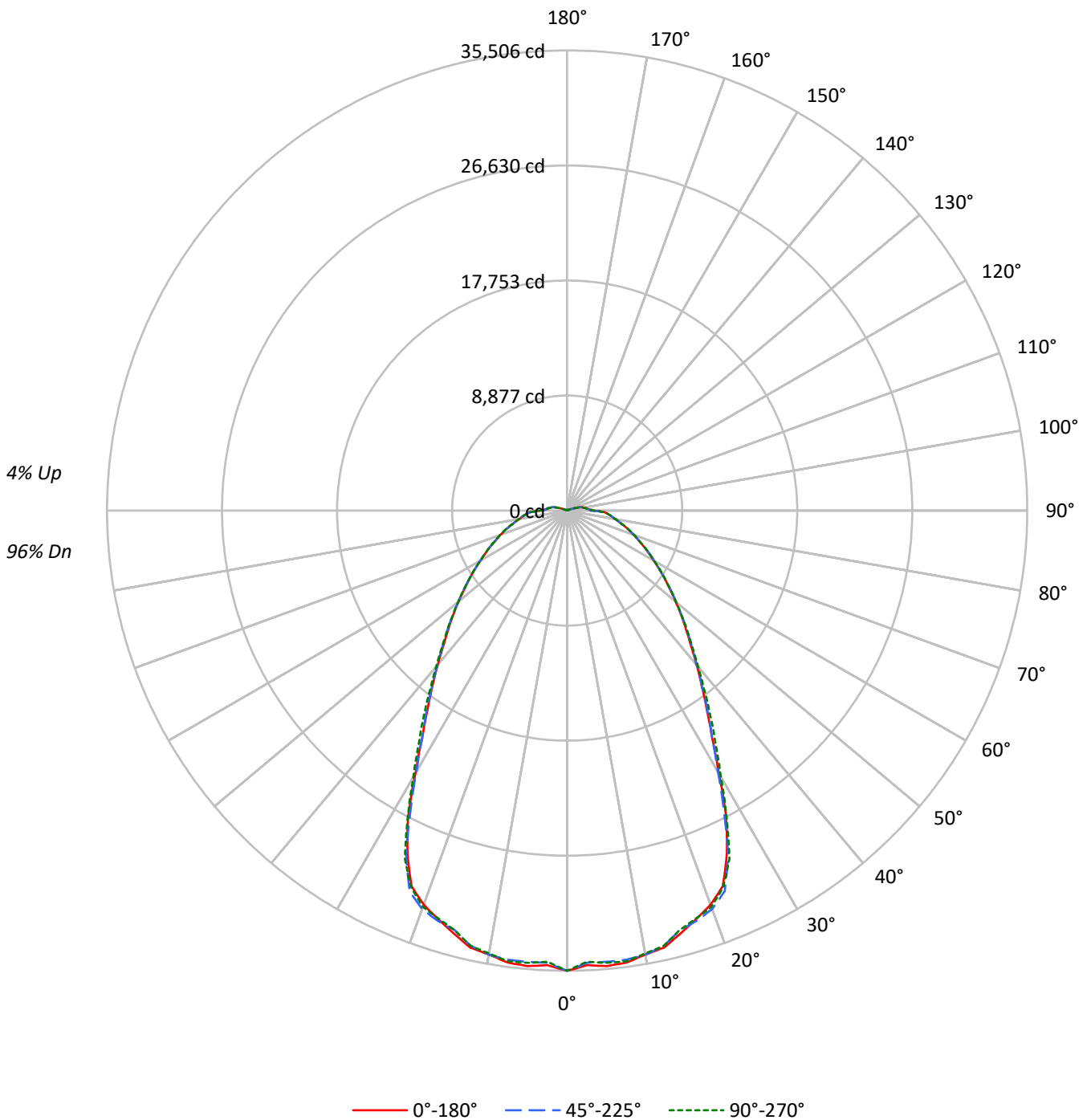
Lumens per Lamp: N/A
Luminaire Lumens: 74137.7 lumens
Efficiency: N/A
Efficacy: 148.1 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.07 / 1.07
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (A_{in}): 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	107	103	98	94	104	100	96	92	95	92	89	90	88	85	86	84	82	80
2	98	90	84	78	95	88	82	77	84	79	74	80	76	72	76	73	70	68
3	91	80	73	66	88	79	71	65	75	69	64	72	67	62	69	64	61	58
4	84	72	64	57	81	71	63	57	68	61	56	65	59	54	62	57	53	51
5	77	65	57	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	51	45	70	58	50	45	56	49	44	54	48	43	52	47	43	40
7	67	54	46	40	65	54	46	40	52	45	40	50	44	39	48	43	38	37
8	63	50	42	37	61	49	42	36	48	41	36	46	40	36	45	39	35	33
9	59	46	39	33	58	46	38	33	44	38	33	43	37	33	42	36	32	30
10	56	43	36	31	54	43	35	31	41	35	30	40	34	30	39	34	30	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	273853	273853	273853
5°	270285	267799	268397
10°	266766	266872	266108
15°	261387	259385	259267
20°	254473	257363	255966
25°	235063	236901	238864
30°	194977	193675	197680
35°	163278	164276	167282
40°	142210	142476	143807
45°	126419	127507	127657
50°	114863	115232	115490
55°	105781	106027	106045
60°	98699	99168	98913
65°	94397	94753	95176
70°	92800	93085	93320
75°	93566	93284	93946
80°	99895	100343	99529
85°	119105	118645	119677



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3339.9	4.5
10°-20°	9516.0	12.8
20°-30°	13233.8	17.9
30°-40°	11930.0	16.1
40°-50°	10111.2	13.6
50°-60°	8275.4	11.2
60°-70°	6505.0	8.8
70°-80°	4838.1	6.5
80°-90°	3369.4	4.5
90°-100°	1743.9	2.4
100°-110°	975.8	1.3
110°-120°	142.8	0.2
120°-130°	38.6	0.1
130°-140°	42.9	0.1
140°-150°	36.9	0.0
150°-160°	21.1	0.0
160°-170°	12.5	0.0
170°-180°	4.3	0.0
0°-30°	26089.7	35.2
0°-40°	38019.8	51.3
0°-60°	56406.4	76.1
0°-90°	71119.0	95.9
90°-120°	2862.5	3.9
90°-150°	2980.9	4.0
90°-180°	3019.0	4.1
0°-180°	74137.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	35506	35506	35506	35506	35506	
5°	35274	34964	34950	35130	35028	###
15°	33782	33589	33523	33764	33508	9526
25°	29159	29242	29387	29659	29630	13178
35°	18791	18766	18906	18962	19251	11864
45°	12974	12998	13085	13006	13101	10068
55°	9208	9163	9229	9229	9231	8270
65°	6497	6492	6521	6593	6550	6466
75°	4539	4554	4525	4556	4557	4832
85°	3183	3190	3170	3160	3198	2718
90°	2083	1982	1814	1956	2039	1203
95°	1557	1571	1609	1534	1526	1235
105°	983	974	964	941	954	982
115°	95	93	93	89	92	145
125°	43	44	43	43	44	38
135°	55	57	55	55	57	43
145°	61	60	61	60	60	38
155°	43	44	43	43	43	21
165°	46	44	44	44	44	13
175°	44	44	44	44	46	4
180°	44	44	44	44	44	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	35505.6	35505.6	35505.6	35505.6	35505.6
2.5°	35106.0	34934.6	34922.3	34972.8	34839.7
5°	35274.4	34963.7	34949.9	35130.5	35028.0
7.5°	35167.3	34908.5	34951.4	35161.1	35064.7
10°	34778.4	34672.8	34792.2	34969.8	34692.7
12.5°	34538.1	34391.1	34391.1	34417.2	34403.4
15°	33781.9	33589.0	33523.2	33763.5	33507.9
17.5°	33067.0	32898.6	33186.4	33114.4	33007.3
20°	32350.6	32447.0	32718.0	32571.0	32540.4
22.5°	31373.9	31409.1	31775.0	31781.1	31458.1
25°	29158.8	29241.5	29386.9	29659.4	29630.3
27.5°	26550.3	26230.4	26216.6	26822.8	26633.0
30°	23401.5	23314.2	23245.3	23700.0	23726.0
32.5°	20820.5	20912.4	20815.9	21063.9	21295.1
35°	18790.7	18766.2	18905.5	18962.1	19251.4
37.5°	17063.9	17042.5	17097.6	17270.6	17350.2
40°	15539.2	15539.2	15568.3	15741.3	15713.7
42.5°	14120.2	14254.9	14247.2	14296.2	14299.3
45°	12973.6	12998.1	13085.3	13005.7	13100.7
47.5°	11918.9	11877.5	11989.3	11897.4	11981.6
50°	10934.6	10862.6	10969.8	10870.3	10994.3
52.5°	10014.5	9936.5	10077.3	9976.3	10066.6
55°	9207.8	9163.4	9229.2	9229.2	9230.8
57.5°	8443.9	8434.8	8436.3	8497.5	8486.8
60°	7721.4	7758.1	7758.1	7801.0	7738.2
62.5°	7084.6	7098.4	7145.8	7170.3	7116.7
65°	6496.7	6492.2	6521.2	6593.2	6550.3
67.5°	5938.0	5956.4	5977.8	6052.8	5971.7
70°	5465.0	5460.4	5481.8	5530.8	5495.6
72.5°	5005.7	4996.6	5013.4	5037.9	5036.4
75°	4538.8	4554.2	4525.1	4555.7	4557.2
77.5°	4133.2	4130.1	4128.6	4113.3	4143.9
80°	3771.9	3768.8	3788.8	3748.9	3758.1
82.5°	3470.3	3465.7	3488.7	3435.1	3444.3
85°	3182.6	3190.2	3170.3	3159.6	3197.9
87.5°	2887.1	2867.2	2845.8	2853.4	2859.5
90°	2083.4	1982.4	1814.0	1956.4	2039.0
92.5°	1723.7	1772.7	1706.9	1694.6	1757.4
95°	1556.8	1570.6	1608.9	1533.9	1526.2
97.5°	1461.9	1495.6	1484.9	1435.9	1434.4
100°	1307.3	1325.7	1316.5	1298.1	1299.7
102.5°	1169.5	1209.3	1166.5	1157.3	1171.1
105°	982.8	973.6	964.4	941.4	953.7
107.5°	682.7	691.9	672.0	667.4	687.3
110°	421.0	414.8	394.9	399.5	411.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	209.7	214.3	214.3	206.7	203.6
115°	94.9	93.4	93.4	88.8	91.8
117.5°	44.4	42.9	39.8	42.9	45.9
120°	35.2	36.7	33.7	35.2	38.3
122.5°	38.3	41.3	38.3	39.8	41.3
125°	42.9	44.4	42.9	42.9	44.4
127.5°	45.9	47.5	45.9	45.9	47.5
130°	49.0	50.5	49.0	50.5	50.5
132.5°	52.0	53.6	52.0	52.0	53.6
135°	55.1	56.6	55.1	55.1	56.6
137.5°	58.2	59.7	58.2	58.2	58.2
140°	61.2	61.2	59.7	61.2	59.7
142.5°	62.8	61.2	61.2	61.2	59.7
145°	61.2	59.7	61.2	59.7	59.7
147.5°	58.2	56.6	56.6	56.6	56.6
150°	52.0	52.0	50.5	52.0	52.0
152.5°	47.5	47.5	45.9	45.9	47.5
155°	42.9	44.4	42.9	42.9	42.9
157.5°	44.4	44.4	42.9	42.9	44.4
160°	44.4	44.4	42.9	42.9	44.4
162.5°	44.4	44.4	42.9	42.9	44.4
165°	45.9	44.4	44.4	44.4	44.4
167.5°	45.9	44.4	44.4	42.9	44.4
170°	45.9	45.9	44.4	42.9	44.4
172.5°	45.9	45.9	44.4	44.4	44.4
175°	44.4	44.4	44.4	44.4	45.9
177.5°	42.9	42.9	42.9	44.4	45.9
180°	44.4	44.4	44.4	44.4	44.4

(END OF REPORT)