

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: P381667

Luminaire Tested: **BMK-60-NCL-UNV-L840-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: P381667
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-60-NCL-UNV-L840-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW CLEAR LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

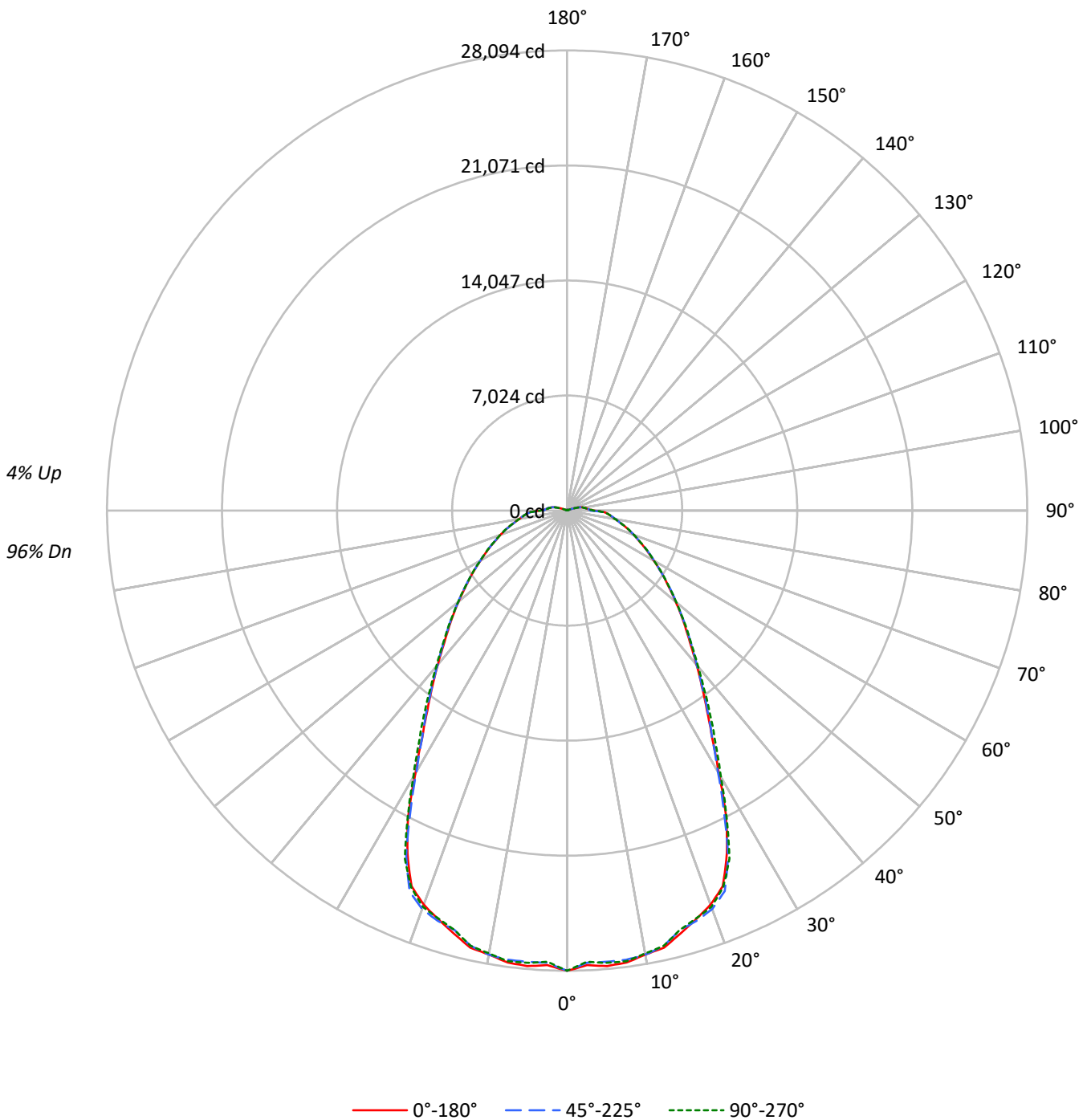
Lumens per Lamp: N/A
Luminaire Lumens: 58662.1 lumens
Efficiency: N/A
Efficacy: 144.6 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.07 / 1.07
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 405.7
Input Voltage (V): NR
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	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°	216688	216688	216688
5°	213866	211898	212372
10°	211081	211165	210561
15°	206825	205241	205147
20°	201354	203641	202536
25°	185996	187451	189003
30°	154277	153248	156416
35°	129195	129984	132364
40°	112525	112736	113789
45°	100030	100892	101010
50°	90886	91178	91382
55°	83701	83895	83909
60°	78096	78468	78267
65°	74693	74975	75309
70°	73428	73654	73839
75°	74036	73811	74335
80°	79044	79396	78755
85°	94241	93878	94693



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2642.8	4.5
10°-20°	7529.6	12.8
20°-30°	10471.4	17.9
30°-40°	9439.8	16.1
40°-50°	8000.6	13.6
50°-60°	6548.0	11.2
60°-70°	5147.2	8.8
70°-80°	3828.2	6.5
80°-90°	2666.1	4.5
90°-100°	1379.9	2.4
100°-110°	772.1	1.3
110°-120°	113.0	0.2
120°-130°	30.5	0.1
130°-140°	33.9	0.1
140°-150°	29.2	0.0
150°-160°	16.7	0.0
160°-170°	9.9	0.0
170°-180°	3.4	0.0
0°-30°	20643.8	35.2
0°-40°	30083.5	51.3
0°-60°	44632.1	76.1
0°-90°	56273.6	95.9
90°-120°	2265.0	3.9
90°-150°	2358.7	4.0
90°-180°	2389.0	4.1
0°-180°	58662.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	28094	28094	28094	28094	28094	
5°	27911	27665	27654	27797	27716	###
15°	26730	26578	26526	26716	26513	7537
25°	23072	23138	23253	23468	23445	10427
35°	14868	14849	14959	15004	15233	9388
45°	10266	10285	10354	10291	10366	7967
55°	7286	7251	7303	7303	7304	6544
65°	5141	5137	5160	5217	5183	5116
75°	3591	3604	3580	3605	3606	3824
85°	2518	2524	2508	2500	2530	2150
90°	1648	1569	1435	1548	1613	952
95°	1232	1243	1273	1214	1208	977
105°	778	770	763	745	755	777
115°	75	74	74	70	73	115
125°	34	35	34	34	35	30
135°	44	45	44	44	45	34
145°	48	47	48	47	47	30
155°	34	35	34	34	34	17
165°	36	35	35	35	35	10
175°	35	35	35	35	36	3
180°	35	35	35	35	35	



TEST NUMBER: P381667

CATALOG NUMBER: BMK-60-NCL-UNV-L840-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	28094.1	28094.1	28094.1	28094.1	28094.1
2.5°	27778.0	27642.3	27632.6	27672.6	27567.2
5°	27911.2	27665.3	27654.4	27797.4	27716.2
7.5°	27826.4	27621.7	27655.6	27821.6	27745.3
10°	27518.8	27435.2	27529.7	27670.2	27450.9
12.5°	27328.6	27212.3	27212.3	27232.9	27222.0
15°	26730.2	26577.6	26525.5	26715.7	26513.4
17.5°	26164.6	26031.3	26259.0	26202.1	26117.3
20°	25597.7	25674.0	25888.4	25772.1	25747.9
22.5°	24824.9	24852.8	25142.3	25147.1	24891.5
25°	23072.2	23137.6	23252.7	23468.3	23445.3
27.5°	21008.2	20755.1	20744.1	21223.8	21073.6
30°	18516.6	18447.6	18393.1	18752.8	18773.4
32.5°	16474.4	16547.1	16470.8	16667.0	16849.9
35°	14868.3	14848.9	14959.1	15004.0	15232.9
37.5°	13502.0	13485.0	13528.6	13665.5	13728.5
40°	12295.6	12295.6	12318.6	12455.5	12433.7
42.5°	11172.7	11279.3	11273.3	11312.0	11314.4
45°	10265.5	10284.9	10353.9	10290.9	10366.0
47.5°	9430.9	9398.2	9486.6	9414.0	9480.6
50°	8652.1	8595.1	8679.9	8601.2	8699.3
52.5°	7924.1	7862.3	7973.8	7893.8	7965.3
55°	7285.8	7250.6	7302.7	7302.7	7303.9
57.5°	6681.3	6674.1	6675.3	6723.7	6715.3
60°	6109.6	6138.7	6138.7	6172.6	6123.0
62.5°	5605.7	5616.6	5654.2	5673.6	5631.2
65°	5140.6	5137.0	5160.0	5216.9	5183.0
67.5°	4698.5	4713.0	4730.0	4789.3	4725.2
70°	4324.2	4320.6	4337.5	4376.3	4348.4
72.5°	3960.8	3953.6	3966.9	3986.3	3985.1
75°	3591.4	3603.5	3580.5	3604.7	3605.9
77.5°	3270.4	3268.0	3266.8	3254.7	3278.9
80°	2984.6	2982.1	2997.9	2966.4	2973.7
82.5°	2745.9	2742.3	2760.5	2718.1	2725.3
85°	2518.2	2524.3	2508.5	2500.1	2530.3
87.5°	2284.4	2268.7	2251.7	2257.8	2262.6
90°	1648.5	1568.6	1435.4	1548.0	1613.4
92.5°	1363.9	1402.6	1350.6	1340.9	1390.5
95°	1231.9	1242.8	1273.0	1213.7	1207.6
97.5°	1156.8	1183.4	1174.9	1136.2	1135.0
100°	1034.4	1049.0	1041.7	1027.2	1028.4
102.5°	925.4	956.9	923.0	915.7	926.6
105°	777.6	770.4	763.1	744.9	754.6
107.5°	540.2	547.5	531.7	528.1	543.9
110°	333.1	328.3	312.5	316.1	325.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	165.9	169.6	169.6	163.5	161.1
115°	75.1	73.9	73.9	70.3	72.7
117.5°	35.1	33.9	31.5	33.9	36.3
120°	27.9	29.1	26.6	27.9	30.3
122.5°	30.3	32.7	30.3	31.5	32.7
125°	33.9	35.1	33.9	33.9	35.1
127.5°	36.3	37.5	36.3	36.3	37.5
130°	38.8	40.0	38.8	40.0	40.0
132.5°	41.2	42.4	41.2	41.2	42.4
135°	43.6	44.8	43.6	43.6	44.8
137.5°	46.0	47.2	46.0	46.0	46.0
140°	48.5	48.5	47.2	48.5	47.2
142.5°	49.7	48.5	48.5	48.5	47.2
145°	48.5	47.2	48.5	47.2	47.2
147.5°	46.0	44.8	44.8	44.8	44.8
150°	41.2	41.2	40.0	41.2	41.2
152.5°	37.5	37.5	36.3	36.3	37.5
155°	33.9	35.1	33.9	33.9	33.9
157.5°	35.1	35.1	33.9	33.9	35.1
160°	35.1	35.1	33.9	33.9	35.1
162.5°	35.1	35.1	33.9	33.9	35.1
165°	36.3	35.1	35.1	35.1	35.1
167.5°	36.3	35.1	35.1	33.9	35.1
170°	36.3	36.3	35.1	33.9	35.1
172.5°	36.3	36.3	35.1	35.1	35.1
175°	35.1	35.1	35.1	35.1	36.3
177.5°	33.9	33.9	33.9	35.1	36.3
180°	35.1	35.1	35.1	35.1	35.1

(END OF REPORT)