

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: P381658

Luminaire Tested: **BMK-50-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: P381658
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-50-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

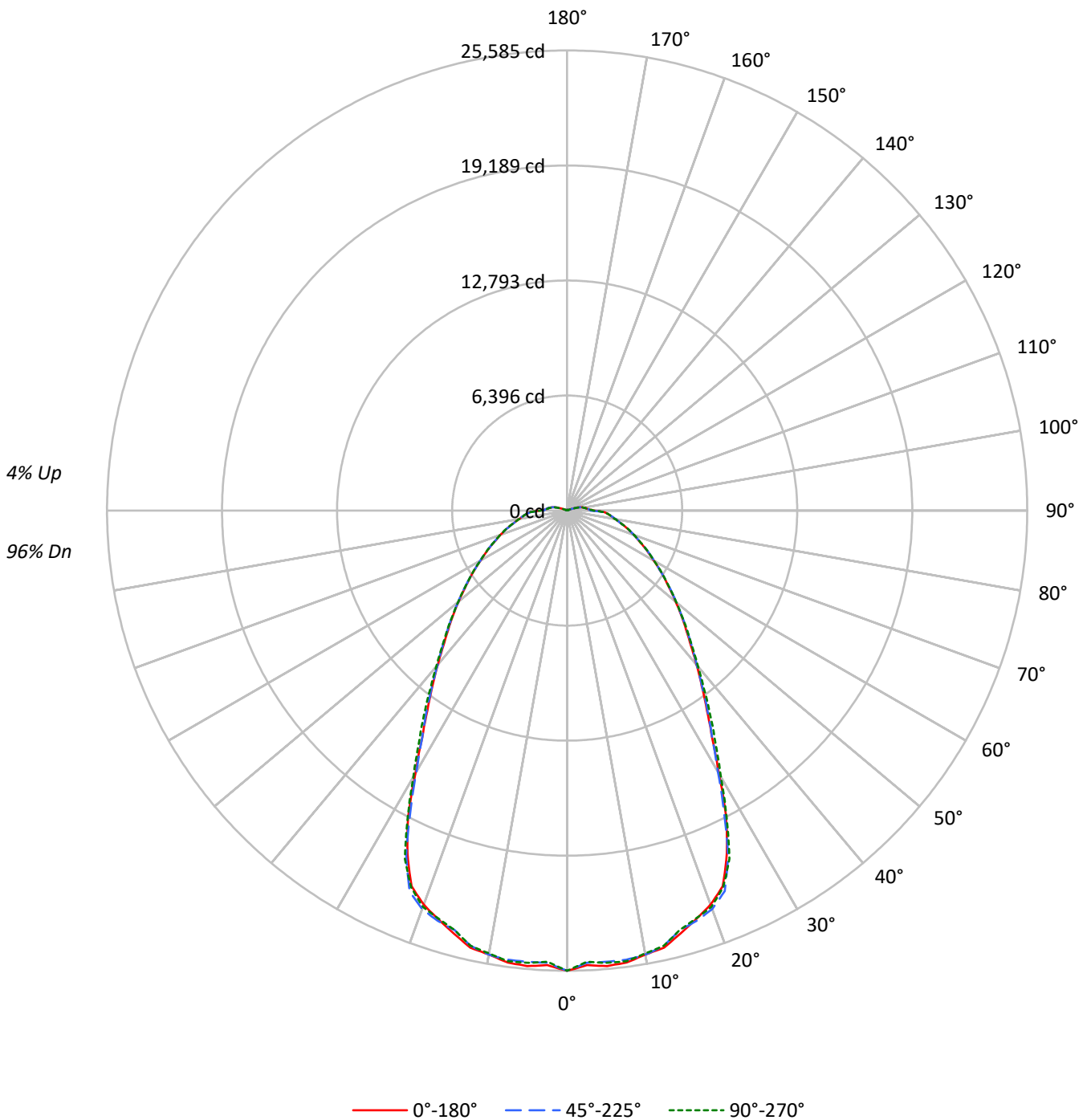
Lumens per Lamp: N/A
Luminaire Lumens: 53423.5 lumens
Efficiency: N/A
Efficacy: 160.7 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.07 / 1.07
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 332.5
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°	197337	197337	197337
5°	194767	192975	193406
10°	192231	192307	191757
15°	188354	186912	186827
20°	183372	185455	184448
25°	169386	170710	172124
30°	140499	139562	142448
35°	117658	118376	120543
40°	102476	102668	103627
45°	91097	91882	91989
50°	82769	83036	83221
55°	76225	76403	76416
60°	71122	71460	71278
65°	68022	68279	68583
70°	66872	67078	67246
75°	67425	67221	67697
80°	71983	72307	71721
85°	85824	85495	86239



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2406.7	4.5
10°-20°	6857.2	12.8
20°-30°	9536.3	17.9
30°-40°	8596.8	16.1
40°-50°	7286.1	13.6
50°-60°	5963.2	11.2
60°-70°	4687.5	8.8
70°-80°	3486.3	6.5
80°-90°	2428.0	4.5
90°-100°	1256.7	2.4
100°-110°	703.1	1.3
110°-120°	102.9	0.2
120°-130°	27.8	0.1
130°-140°	30.9	0.1
140°-150°	26.6	0.0
150°-160°	15.2	0.0
160°-170°	9.0	0.0
170°-180°	3.1	0.0
0°-30°	18800.2	35.2
0°-40°	27397.0	51.3
0°-60°	40646.3	76.1
0°-90°	51248.2	95.9
90°-120°	2062.7	3.9
90°-150°	2148.0	4.0
90°-180°	2175.0	4.1
0°-180°	53423.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	25585	25585	25585	25585	25585	
5°	25419	25195	25185	25315	25241	###
15°	24343	24204	24157	24330	24146	6864
25°	21012	21071	21176	21372	21352	9496
35°	13540	13523	13623	13664	13872	8549
45°	9349	9366	9429	9372	9440	7255
55°	6635	6603	6651	6651	6652	5959
65°	4682	4678	4699	4751	4720	4659
75°	3271	3282	3261	3283	3284	3482
85°	2293	2299	2284	2277	2304	1958
90°	1501	1428	1307	1410	1469	867
95°	1122	1132	1159	1105	1100	890
105°	708	702	695	678	687	708
115°	68	67	67	64	66	105
125°	31	32	31	31	32	27
135°	40	41	40	40	41	31
145°	44	43	44	43	43	27
155°	31	32	31	31	31	15
165°	33	32	32	32	32	9
175°	32	32	32	32	33	3
180°	32	32	32	32	32	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	25585.2	25585.2	25585.2	25585.2	25585.2
2.5°	25297.3	25173.8	25164.9	25201.3	25105.4
5°	25418.6	25194.7	25184.8	25315.0	25241.0
7.5°	25341.4	25155.0	25185.9	25337.0	25267.5
10°	25061.2	24985.1	25071.2	25199.1	24999.5
12.5°	24888.1	24782.2	24782.2	24800.9	24791.0
15°	24343.1	24204.1	24156.7	24329.9	24145.7
17.5°	23828.0	23706.6	23914.0	23862.2	23785.0
20°	23311.7	23381.2	23576.5	23470.6	23448.5
22.5°	22608.0	22633.3	22897.0	22901.4	22668.6
25°	21011.8	21071.3	21176.1	21372.5	21351.5
27.5°	19132.1	18901.6	18891.6	19328.4	19191.7
30°	16863.0	16800.2	16750.5	17078.1	17096.9
32.5°	15003.2	15069.4	14999.9	15178.6	15345.2
35°	13540.5	13522.9	13623.2	13664.1	13872.5
37.5°	12296.2	12280.8	12320.5	12445.1	12502.5
40°	11197.5	11197.5	11218.5	11343.1	11323.3
42.5°	10175.0	10272.0	10266.5	10301.8	10304.0
45°	9348.7	9366.4	9429.3	9371.9	9440.3
47.5°	8588.7	8558.9	8639.4	8573.3	8633.9
50°	7879.4	7827.6	7904.8	7833.1	7922.4
52.5°	7216.5	7160.2	7261.7	7188.9	7254.0
55°	6635.1	6603.1	6650.6	6650.6	6651.7
57.5°	6084.7	6078.1	6079.2	6123.3	6115.6
60°	5564.0	5590.5	5590.5	5621.4	5576.2
62.5°	5105.1	5115.1	5149.3	5166.9	5128.3
65°	4681.5	4678.2	4699.2	4751.0	4720.1
67.5°	4278.9	4292.1	4307.6	4361.6	4303.2
70°	3938.1	3934.7	3950.2	3985.5	3960.1
72.5°	3607.1	3600.5	3612.6	3630.3	3629.2
75°	3270.7	3281.7	3260.8	3282.8	3283.9
77.5°	2978.4	2976.2	2975.1	2964.0	2986.1
80°	2718.0	2715.8	2730.2	2701.5	2708.1
82.5°	2500.7	2497.4	2514.0	2475.3	2482.0
85°	2293.3	2298.9	2284.5	2276.8	2304.4
87.5°	2080.4	2066.1	2050.7	2056.2	2060.6
90°	1501.3	1428.5	1307.2	1409.8	1469.3
92.5°	1242.1	1277.4	1230.0	1221.1	1266.4
95°	1121.8	1131.8	1159.4	1105.3	1099.8
97.5°	1053.5	1077.7	1070.0	1034.7	1033.6
100°	942.0	955.3	948.7	935.4	936.5
102.5°	842.8	871.4	840.6	833.9	843.9
105°	708.2	701.6	695.0	678.4	687.2
107.5°	492.0	498.6	484.3	480.9	495.3
110°	303.4	298.9	284.6	287.9	296.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	151.1	154.4	154.4	148.9	146.7
115°	68.4	67.3	67.3	64.0	66.2
117.5°	32.0	30.9	28.7	30.9	33.1
120°	25.4	26.5	24.3	25.4	27.6
122.5°	27.6	29.8	27.6	28.7	29.8
125°	30.9	32.0	30.9	30.9	32.0
127.5°	33.1	34.2	33.1	33.1	34.2
130°	35.3	36.4	35.3	36.4	36.4
132.5°	37.5	38.6	37.5	37.5	38.6
135°	39.7	40.8	39.7	39.7	40.8
137.5°	41.9	43.0	41.9	41.9	41.9
140°	44.1	44.1	43.0	44.1	43.0
142.5°	45.2	44.1	44.1	44.1	43.0
145°	44.1	43.0	44.1	43.0	43.0
147.5°	41.9	40.8	40.8	40.8	40.8
150°	37.5	37.5	36.4	37.5	37.5
152.5°	34.2	34.2	33.1	33.1	34.2
155°	30.9	32.0	30.9	30.9	30.9
157.5°	32.0	32.0	30.9	30.9	32.0
160°	32.0	32.0	30.9	30.9	32.0
162.5°	32.0	32.0	30.9	30.9	32.0
165°	33.1	32.0	32.0	32.0	32.0
167.5°	33.1	32.0	32.0	30.9	32.0
170°	33.1	33.1	32.0	30.9	32.0
172.5°	33.1	33.1	32.0	32.0	32.0
175°	32.0	32.0	32.0	32.0	33.1
177.5°	30.9	30.9	30.9	32.0	33.1
180°	32.0	32.0	32.0	32.0	32.0

(END OF REPORT)