

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: P294572

Luminaire Tested: **BMK-24-NCL-UNV-L735-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: P294572  
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-24-NCL-UNV-L735-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH NARROW CLEAR LENS  
Light Source: (528) 70 CRI 3500K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

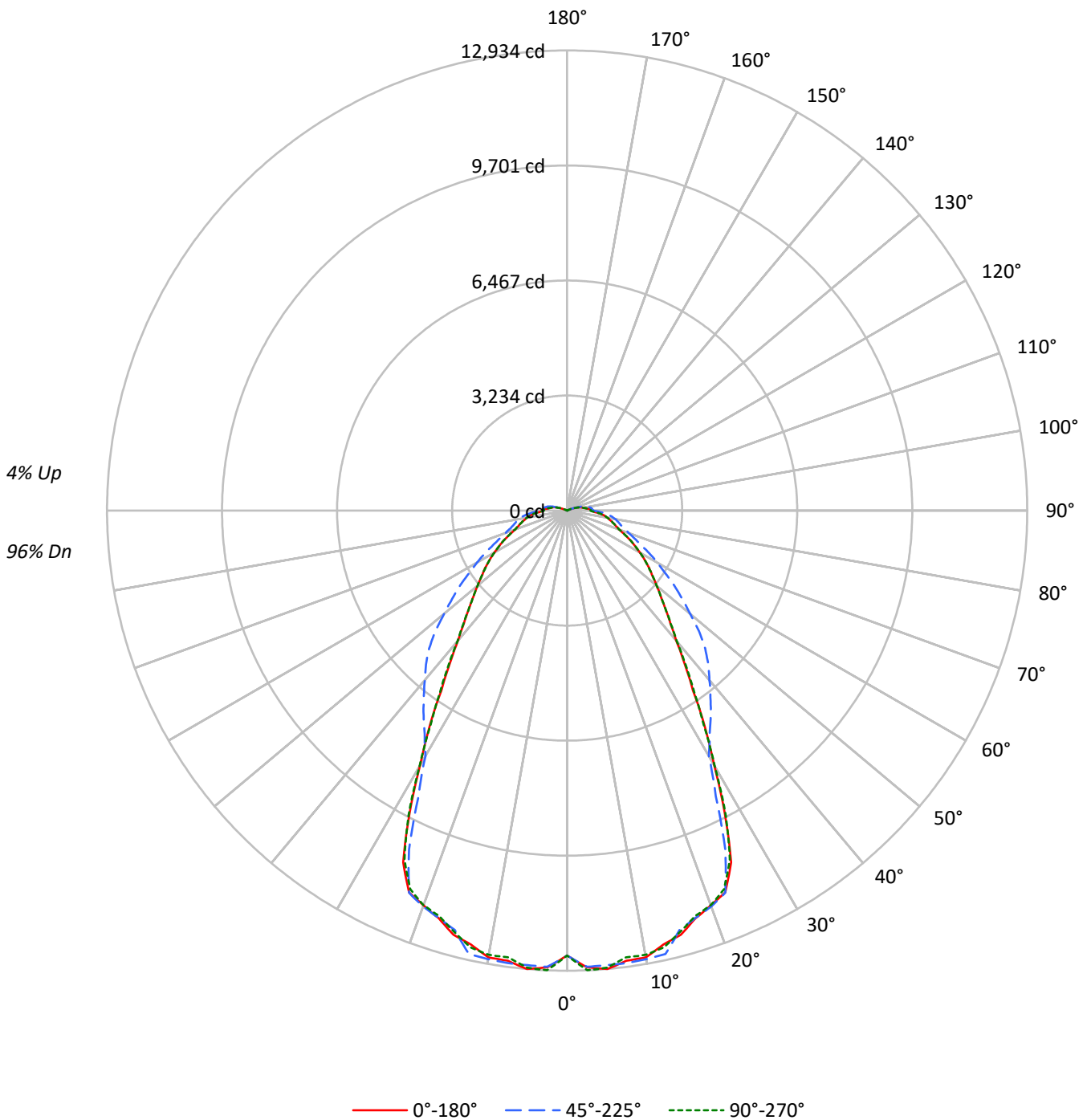
Lumens per Lamp: N/A  
Luminaire Lumens: 25981.0 lumens  
Efficiency: N/A  
Efficacy: 167.1 lumens/watt  
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 155.5  
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°	96427	96427	96427
5°	99058	98226	98781
10°	97741	98150	97219
15°	95449	94378	94840
20°	92832	93100	92798
25°	87876	84717	87155
30°	68822	66357	69124
35°	53568	61099	54031
40°	43674	56926	43829
45°	38015	53433	38036
50°	34516	47356	34538
55°	32317	42127	32146
60°	30187	37319	30187
65°	28251	33356	28251
70°	26470	31389	26434
75°	27571	32049	27482
80°	30288	36322	30233
85°	34272	41447	34193



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1217.4	4.7
10°-20°	3460.4	13.3
20°-30°	4749.8	18.3
30°-40°	4164.5	16.0
40°-50°	3564.3	13.7
50°-60°	2886.4	11.1
60°-70°	2165.0	8.3
70°-80°	1576.9	6.1
80°-90°	1079.4	4.2
90°-100°	667.3	2.6
100°-110°	387.4	1.5
110°-120°	61.2	0.2
120°-130°	0.9	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°	9427.7	36.3
0°-40°	13592.2	52.3
0°-60°	20042.9	77.1
0°-90°	24864.2	95.7
90°-120°	1115.9	4.3
90°-150°	1116.8	4.3
90°-180°	1117.0	4.3
0°-180°	25981.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	12508	12508	12508	12508	12508	
5°	12934	12815	12826	12851	12898	###
15°	12342	12218	12204	12204	12263	3468
25°	10906	10497	10514	10514	10817	4826
35°	6168	6526	7035	6581	6221	3929
45°	3903	4544	5486	4506	3905	3043
55°	2814	3202	3669	3204	2800	2515
65°	1945	2228	2297	2218	1945	1929
75°	1338	1519	1555	1510	1334	1416
85°	916	995	1108	995	914	792
90°	673	699	733	686	654	382
95°	573	582	690	592	577	454
105°	356	364	456	358	352	359
115°	38	40	53	40	38	59
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°	12508.2	12508.2	12508.2	12508.2	12508.2
2.5°	12849.1	12757.5	12834.2	12885.3	12932.2
5°	12934.3	12815.0	12825.6	12851.2	12898.1
7.5°	12763.9	12636.0	12825.6	12731.9	12665.9
10°	12748.9	12542.3	12802.2	12629.6	12680.8
12.5°	12491.2	12469.8	12763.9	12552.9	12572.1
15°	12342.0	12218.4	12203.5	12203.5	12263.2
17.5°	12011.8	11937.2	12005.4	11969.2	11950.0
20°	11807.3	11773.2	11841.4	11875.4	11803.0
22.5°	11613.4	11447.2	11621.9	11477.0	11519.6
25°	10906.1	10497.0	10514.0	10514.0	10816.6
27.5°	9589.4	9350.8	9050.4	9384.9	9661.8
30°	8264.2	8334.5	7968.1	8319.6	8300.4
32.5°	7194.7	7392.9	7452.5	7401.4	7141.5
35°	6167.8	6525.7	7034.9	6581.1	6221.1
37.5°	5411.5	5903.6	6619.5	5893.0	5473.3
40°	4774.5	5360.4	6223.2	5385.9	4791.5
42.5°	4295.1	4938.5	5871.7	4912.9	4307.9
45°	3903.1	4544.4	5486.1	4506.0	3905.2
47.5°	3566.5	4180.1	5025.9	4182.2	3566.5
50°	3287.4	3785.9	4510.3	3783.8	3289.5
52.5°	3025.3	3489.8	4071.4	3464.2	3033.8
55°	2814.4	3202.1	3668.7	3204.3	2799.5
57.5°	2582.2	2940.1	3259.7	2935.8	2592.8
60°	2362.7	2682.3	2920.9	2658.9	2362.7
62.5°	2147.5	2448.0	2601.3	2450.1	2151.8
65°	1945.2	2228.5	2296.7	2217.9	1945.2
67.5°	1738.5	2015.5	2047.4	2002.7	1749.1
70°	1559.5	1836.5	1849.3	1817.3	1557.4
72.5°	1438.1	1661.8	1676.7	1666.1	1438.1
75°	1338.0	1519.1	1555.3	1510.5	1333.7
77.5°	1233.6	1382.7	1465.8	1384.8	1242.1
80°	1144.1	1254.9	1372.0	1257.0	1142.0
82.5°	1050.3	1133.4	1263.4	1137.7	1058.9
85°	916.1	994.9	1107.9	994.9	914.0
87.5°	745.7	843.7	914.0	837.3	732.9
90°	673.2	698.8	732.9	686.0	654.1
92.5°	692.4	654.1	711.6	649.8	664.7
95°	573.1	581.6	690.3	592.3	577.4
97.5°	517.7	541.1	656.2	530.5	515.6
100°	455.9	494.3	590.2	485.8	458.1
102.5°	415.4	441.0	541.1	447.4	421.8
105°	355.8	364.3	455.9	357.9	351.5
107.5°	266.3	266.3	300.4	268.4	262.1
110°	176.8	168.3	181.1	164.0	176.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	93.7	89.5	104.4	87.4	91.6
115°	38.3	40.5	53.3	40.5	38.3
117.5°	10.7	17.0	19.2	17.0	10.7
120°	6.4	8.5	6.4	8.5	6.4
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)