

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: P294584

Luminaire Tested: **BMK-36-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: P294584  
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-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**

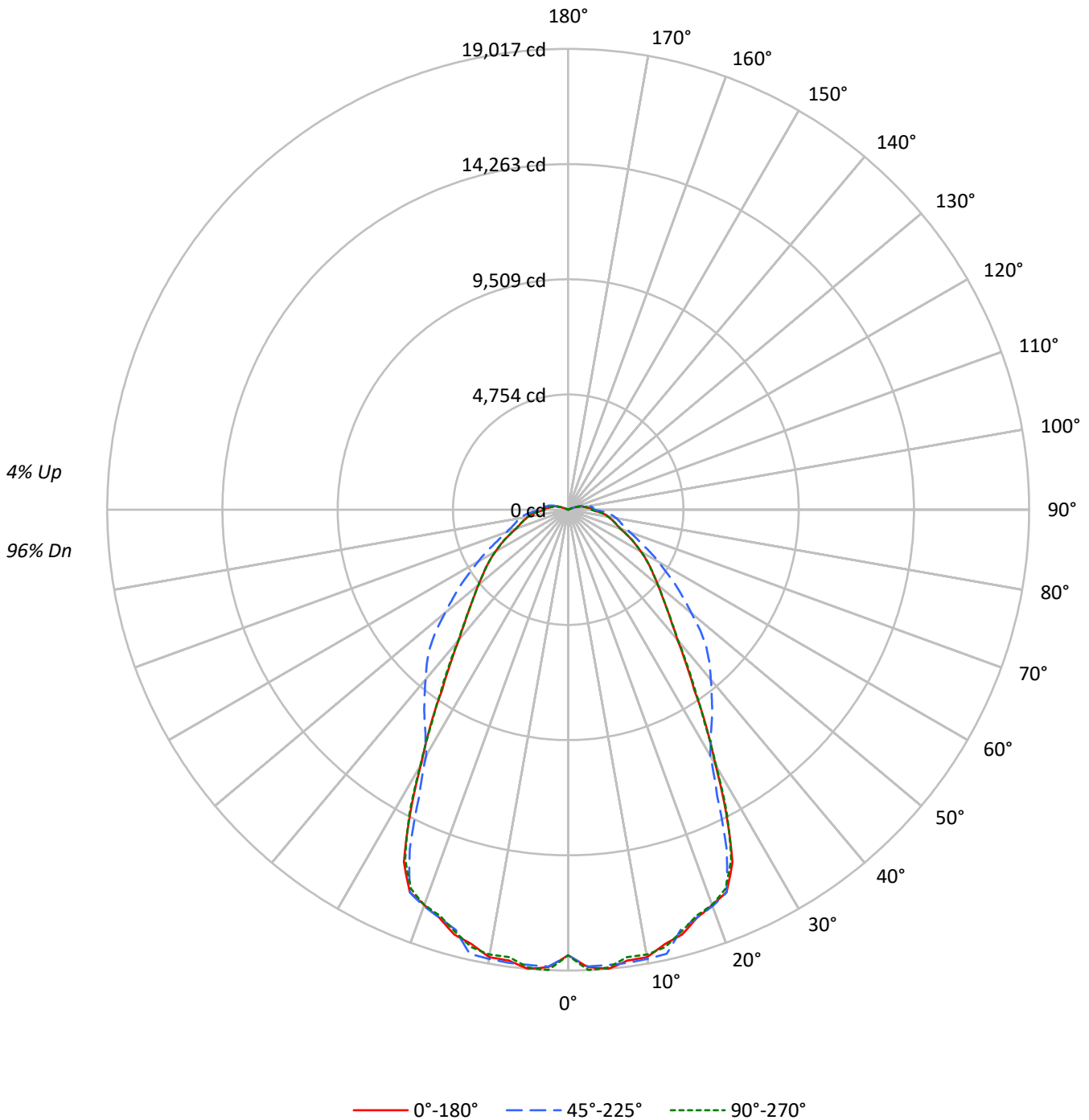
Lumens per Lamp: N/A  
Luminaire Lumens: 38200.0 lumens  
Efficiency: N/A  
Efficacy: 157.2 lumens/watt  
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

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°	141777	141777	141777
5°	145646	144422	145238
10°	143710	144311	142942
15°	140339	138765	139443
20°	136491	136885	136442
25°	129204	124561	128145
30°	101190	97564	101634
35°	78762	89835	79442
40°	64213	83698	64443
45°	55893	78562	55924
50°	50749	69628	50782
55°	47516	61941	47265
60°	44385	54871	44385
65°	41537	49043	41537
70°	38920	46151	38867
75°	40536	47120	40406
80°	44531	53405	44449
85°	50392	60938	50272



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1790.0	4.7
10°-20°	5087.9	13.3
20°-30°	6983.6	18.3
30°-40°	6123.1	16.0
40°-50°	5240.5	13.7
50°-60°	4243.9	11.1
60°-70°	3183.2	8.3
70°-80°	2318.5	6.1
80°-90°	1587.1	4.2
90°-100°	981.2	2.6
100°-110°	569.6	1.5
110°-120°	90.0	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°	13861.6	36.3
0°-40°	19984.7	52.3
0°-60°	29469.1	77.1
0°-90°	36558.0	95.7
90°-120°	1640.8	4.3
90°-150°	1642.1	4.3
90°-180°	1642.0	4.3
0°-180°	38200.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	18391	18391	18391	18391	18391	
5°	19017	18842	18858	18895	18964	###
15°	18146	17965	17943	17943	18031	5098
25°	16035	15434	15459	15459	15904	7096
35°	9069	9595	10344	9676	9147	5777
45°	5739	6682	8066	6625	5742	4474
55°	4138	4708	5394	4711	4116	3697
65°	2860	3277	3377	3261	2860	2836
75°	1967	2234	2287	2221	1961	2082
85°	1347	1463	1629	1463	1344	1165
90°	990	1028	1078	1009	962	561
95°	843	855	1015	871	849	667
105°	523	536	670	526	517	528
115°	56	60	78	60	56	87
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



TEST NUMBER: P294584

CATALOG NUMBER: BMK-36-NCL-UNV-L735-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	18390.9	18390.9	18390.9	18390.9	18390.9
2.5°	18892.1	18757.4	18870.1	18945.3	19014.2
5°	19017.4	18841.9	18857.6	18895.2	18964.1
7.5°	18766.8	18578.8	18857.6	18719.8	18622.7
10°	18744.8	18441.0	18823.2	18569.4	18644.6
12.5°	18365.8	18334.5	18766.8	18456.7	18484.8
15°	18146.5	17964.9	17942.9	17942.9	18030.6
17.5°	17661.0	17551.4	17651.6	17598.3	17570.2
20°	17360.3	17310.2	17410.4	17460.5	17354.0
22.5°	17075.2	16830.9	17087.8	16874.7	16937.4
25°	16035.2	15433.8	15458.9	15458.9	15903.7
27.5°	14099.4	13748.5	13306.8	13798.6	14205.9
30°	12150.9	12254.3	11715.5	12232.4	12204.2
32.5°	10578.4	10869.8	10957.5	10882.3	10500.1
35°	9068.6	9594.8	10343.5	9676.3	9146.9
37.5°	7956.5	8680.1	9732.7	8664.5	8047.4
40°	7019.9	7881.4	9150.0	7918.9	7045.0
42.5°	6315.1	7261.1	8633.2	7223.5	6333.9
45°	5738.7	6681.6	8066.2	6625.2	5741.9
47.5°	5243.8	6146.0	7389.6	6149.1	5243.8
50°	4833.4	5566.4	6631.5	5563.3	4836.6
52.5°	4448.1	5131.0	5986.2	5093.4	4460.7
55°	4138.0	4708.1	5394.2	4711.3	4116.1
57.5°	3796.6	4322.8	4792.7	4316.6	3812.2
60°	3473.9	3943.8	4294.6	3909.4	3473.9
62.5°	3157.6	3599.2	3824.8	3602.4	3163.8
65°	2860.0	3276.6	3376.8	3260.9	2860.0
67.5°	2556.1	2963.3	3010.3	2944.5	2571.8
70°	2293.0	2700.2	2719.0	2672.0	2289.9
72.5°	2114.4	2443.3	2465.3	2449.6	2114.4
75°	1967.2	2233.5	2286.7	2220.9	1960.9
77.5°	1813.7	2033.0	2155.2	2036.1	1826.2
80°	1682.1	1845.0	2017.3	1848.2	1679.0
82.5°	1544.3	1666.5	1857.6	1672.8	1556.8
85°	1347.0	1462.9	1628.9	1462.9	1343.8
87.5°	1096.4	1240.5	1343.8	1231.1	1077.6
90°	989.9	1027.5	1077.6	1008.7	961.7
92.5°	1018.1	961.7	1046.3	955.4	977.3
95°	842.6	855.2	1014.9	870.8	848.9
97.5°	761.2	795.7	964.8	780.0	758.1
100°	670.4	726.7	867.7	714.2	673.5
102.5°	610.8	648.4	795.7	657.8	620.2
105°	523.1	535.7	670.4	526.3	516.9
107.5°	391.6	391.6	441.7	394.7	385.3
110°	260.0	247.5	266.3	241.2	260.0



TEST NUMBER: P294584

CATALOG NUMBER: BMK-36-NCL-UNV-L735-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	137.8	131.6	153.5	128.4	134.7
115°	56.4	59.5	78.3	59.5	56.4
117.5°	15.7	25.1	28.2	25.1	15.7
120°	9.4	12.5	9.4	12.5	9.4
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)