

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: P294581

Luminaire Tested: **BMK-30-NCL-UNV-L835-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: P294581  
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-30-NCL-UNV-L835-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH NARROW CLEAR LENS  
Light Source: (528) 80 CRI 3500K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

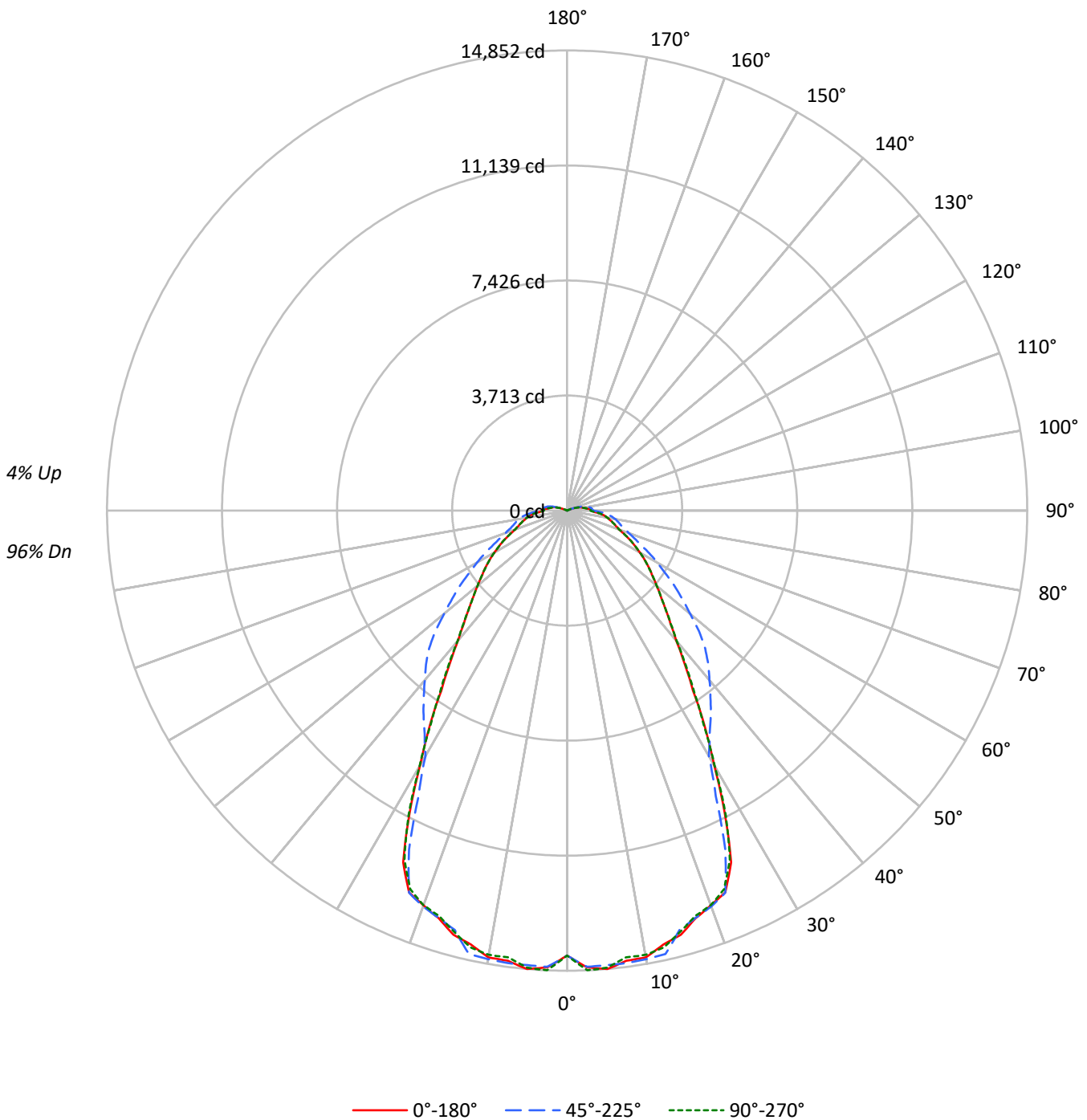
Lumens per Lamp: N/A  
Luminaire Lumens: 29834.0 lumens  
Efficiency: N/A  
Efficacy: 148.4 lumens/watt  
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 201.1  
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°	110727	110727	110727
5°	113749	112793	113430
10°	112237	112706	111636
15°	109604	108374	108904
20°	106599	106906	106560
25°	100908	97281	100080
30°	79029	76197	79375
35°	61513	70160	62044
40°	50150	65368	50329
45°	43652	61356	43677
50°	39635	54379	39660
55°	37110	48375	36913
60°	34664	42854	34664
65°	32440	38303	32440
70°	30396	36043	30355
75°	31659	36800	31558
80°	34778	41709	34715
85°	39356	47594	39262



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1398.0	4.7
10°-20°	3973.6	13.3
20°-30°	5454.2	18.3
30°-40°	4782.1	16.0
40°-50°	4092.8	13.7
50°-60°	3314.5	11.1
60°-70°	2486.1	8.3
70°-80°	1810.8	6.1
80°-90°	1239.5	4.2
90°-100°	766.3	2.6
100°-110°	444.8	1.5
110°-120°	70.3	0.2
120°-130°	1.0	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°	10825.8	36.3
0°-40°	15607.9	52.3
0°-60°	23015.2	77.1
0°-90°	28551.6	95.7
90°-120°	1281.4	4.3
90°-150°	1282.4	4.3
90°-180°	1282.0	4.3
0°-180°	29834.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	14363	14363	14363	14363	14363	
5°	14852	14716	14728	14757	14811	###
15°	14172	14030	14013	14013	14082	3982
25°	12523	12054	12073	12073	12421	5542
35°	7082	7494	8078	7557	7144	4512
45°	4482	5218	6300	5174	4484	3494
55°	3232	3677	4213	3680	3215	2888
65°	2234	2559	2637	2547	2234	2215
75°	1536	1744	1786	1734	1532	1626
85°	1052	1142	1272	1142	1050	910
90°	773	802	842	788	751	438
95°	658	668	793	680	663	521
105°	409	418	524	411	404	412
115°	44	46	61	46	44	68
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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CATALOG NUMBER: BMK-30-NCL-UNV-L835-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	14363.2	14363.2	14363.2	14363.2	14363.2
2.5°	14754.6	14649.4	14737.5	14796.2	14850.0
5°	14852.5	14715.5	14727.7	14757.1	14810.9
7.5°	14656.7	14510.0	14727.7	14620.1	14544.2
10°	14639.6	14402.3	14700.8	14502.6	14561.3
12.5°	14343.6	14319.1	14656.7	14414.5	14436.6
15°	14172.3	14030.5	14013.3	14013.3	14081.8
17.5°	13793.1	13707.5	13785.8	13744.2	13722.2
20°	13558.3	13519.1	13597.4	13636.6	13553.4
22.5°	13335.7	13144.8	13345.4	13179.1	13228.0
25°	12523.4	12053.7	12073.3	12073.3	12420.7
27.5°	11011.5	10737.5	10392.6	10776.7	11094.7
30°	9489.8	9570.6	9149.8	9553.4	9531.4
32.5°	8261.7	8489.2	8557.7	8499.0	8200.5
35°	7082.5	7493.5	8078.2	7557.1	7143.7
37.5°	6214.0	6779.1	7601.2	6766.9	6285.0
40°	5482.5	6155.3	7146.1	6184.7	5502.1
42.5°	4932.1	5670.9	6742.4	5641.5	4946.7
45°	4481.9	5218.3	6299.6	5174.3	4484.4
47.5°	4095.4	4800.0	5771.2	4802.4	4095.4
50°	3774.9	4347.4	5179.2	4344.9	3777.3
52.5°	3474.0	4007.3	4675.2	3977.9	3483.8
55°	3231.8	3677.0	4212.8	3679.5	3214.6
57.5°	2965.1	3376.1	3743.1	3371.2	2977.3
60°	2713.1	3080.1	3354.1	3053.2	2713.1
62.5°	2466.0	2811.0	2987.1	2813.4	2470.9
65°	2233.6	2559.0	2637.3	2546.8	2233.6
67.5°	1996.3	2314.4	2351.0	2299.7	2008.5
70°	1790.8	2108.8	2123.5	2086.8	1788.4
72.5°	1651.4	1908.2	1925.4	1913.1	1651.4
75°	1536.4	1744.3	1785.9	1734.5	1531.5
77.5°	1416.5	1587.8	1683.2	1590.2	1426.3
80°	1313.7	1441.0	1575.5	1443.4	1311.3
82.5°	1206.1	1301.5	1450.8	1306.4	1215.9
85°	1052.0	1142.5	1272.2	1142.5	1049.5
87.5°	856.3	968.8	1049.5	961.5	841.6
90°	773.1	802.4	841.6	787.8	751.1
92.5°	795.1	751.1	817.1	746.2	763.3
95°	658.1	667.9	792.7	680.1	663.0
97.5°	594.5	621.4	753.5	609.2	592.0
100°	523.5	567.6	677.7	557.8	526.0
102.5°	477.1	506.4	621.4	513.8	484.4
105°	408.6	418.3	523.5	411.0	403.7
107.5°	305.8	305.8	345.0	308.3	300.9
110°	203.1	193.3	207.9	188.4	203.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	107.6	102.8	119.9	100.3	105.2
115°	44.0	46.5	61.2	46.5	44.0
117.5°	12.2	19.6	22.0	19.6	12.2
120°	7.3	9.8	7.3	9.8	7.3
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)