

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: P236361

Luminaire Tested: **4SWLED-78HL-LW-UNV-L835-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P236361  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1709-316-27)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4SWLED-78HL-LW-UNV-L835-CD1-U  
Description: METALUX SWLED LINEAR LUMINAIRE  
4FT FIXTURE WITH 2 ROW LED, WIDE LENS  
Light Source: (224) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

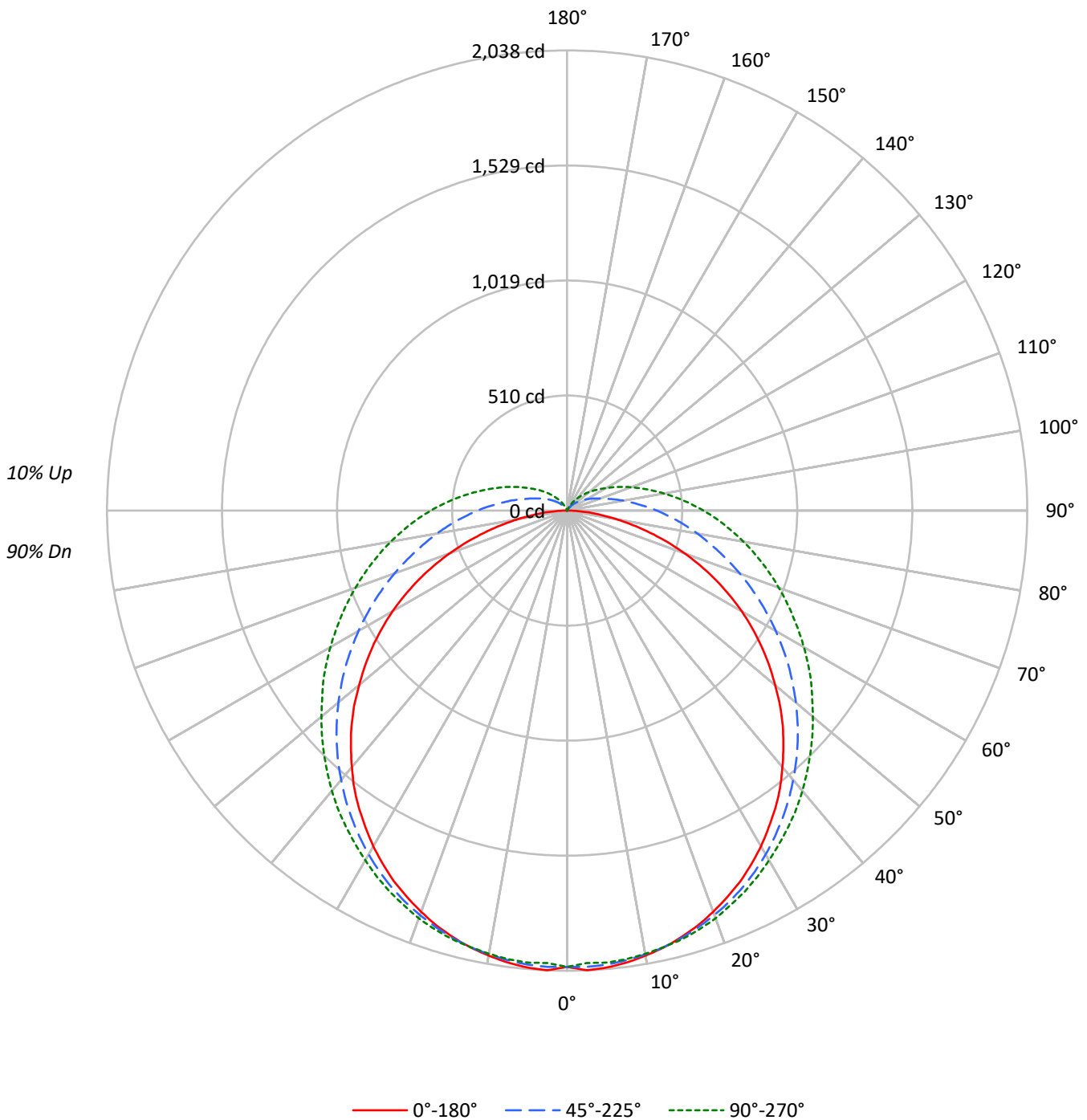
Lumens per Lamp: N/A  
Luminaire Lumens: 7678.0 lumens  
Efficiency: N/A  
Efficacy: 96.7 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 4' x H: 0.15')  
CIE Type: Direct

Input Watts (W): 79.4  
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	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	90				
1	104	98	93	88	100	95	90	86	89	85	82	83	80	77	78	75	73	70				
2	94	84	77	70	90	82	75	69	76	71	66	72	67	63	67	63	60	57				
3	85	73	65	57	82	71	63	56	67	60	54	62	57	52	59	54	50	47				
4	78	65	55	48	74	63	54	47	59	51	45	55	49	44	52	47	42	40				
5	71	58	48	41	68	56	47	40	52	45	39	49	43	38	47	41	36	34				
6	65	52	42	36	63	50	41	35	47	40	34	45	38	33	42	36	32	29				
7	61	47	38	31	58	45	37	31	43	35	30	41	34	29	38	32	28	26				
8	56	42	34	28	54	41	33	27	39	32	27	37	31	26	35	29	25	23				
9	53	39	30	25	51	38	30	24	36	29	24	34	28	23	32	27	22	21				
10	49	36	28	22	47	35	27	22	33	26	21	32	25	21	30	24	20	19				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	14500	14500	14500
5°	14584	14169	13997
10°	14492	13811	13590
15°	14390	13473	13223
20°	14252	13121	12855
25°	14115	12781	12476
30°	13931	12417	12100
35°	13737	12037	11762
40°	13482	11651	11445
45°	13227	11268	11130
50°	12863	10867	10836
55°	12518	10472	10605
60°	12063	10068	10384
65°	11432	9686	10206
70°	10539	9335	10118
75°	9301	9060	10107
80°	7667	8933	10218
85°	5649	9015	10530



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	191.6	2.5
10°-20°	552.2	7.2
20°-30°	845.1	11.0
30°-40°	1036.0	13.5
40°-50°	1108.8	14.4
50°-60°	1063.6	13.9
60°-70°	917.3	11.9
70°-80°	706.7	9.2
80°-90°	490.0	6.4
90°-100°	319.0	4.2
100°-110°	202.7	2.6
110°-120°	123.7	1.6
120°-130°	70.8	0.9
130°-140°	34.9	0.5
140°-150°	13.2	0.2
150°-160°	2.5	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1588.9	20.7
0°-40°	2624.9	34.2
0°-60°	4797.2	62.5
0°-90°	6911.1	90.0
90°-120°	645.4	8.4
90°-150°	764.3	10.0
90°-180°	767.0	10.0
0°-180°	7678.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2021	2021	2021	2021	2021	
5°	2031	2012	2019	2009	2009	193
15°	1956	1942	1960	1962	1965	552
25°	1813	1805	1841	1849	1862	835
35°	1608	1610	1663	1688	1708	1005
45°	1351	1371	1444	1494	1523	1041
55°	1053	1098	1197	1278	1318	940
65°	726	796	938	1052	1102	717
75°	381	500	694	837	894	405
85°	97	265	486	639	696	105
90°	2	180	397	549	604	7
95°	0	121	317	463	515	0
105°	0	60	197	319	364	0
115°	0	33	126	210	247	0
125°	1	16	78	137	161	1
135°	1	4	42	82	97	1
145°	1	1	16	39	49	1
155°	1	1	1	10	14	1
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°	2020.6	2020.6	2020.6	2020.6	2020.6
2.5°	2037.8	2017.8	2022.6	2014.9	2005.4
5°	2031.1	2012.1	2018.7	2009.2	2009.2
7.5°	2018.7	2001.6	2008.3	2002.5	2003.5
10°	2001.6	1984.4	1995.9	1991.1	1993.0
12.5°	1981.6	1964.4	1980.6	1976.8	1979.7
15°	1955.9	1942.5	1959.7	1961.6	1965.4
17.5°	1926.3	1914.9	1934.0	1939.7	1945.4
20°	1891.1	1882.5	1906.3	1912.0	1921.6
22.5°	1853.0	1845.4	1875.8	1880.6	1891.1
25°	1813.0	1805.3	1840.6	1849.2	1861.5
27.5°	1766.3	1763.4	1801.5	1813.9	1826.3
30°	1716.7	1714.8	1758.7	1772.9	1788.2
32.5°	1662.4	1664.3	1712.0	1731.0	1749.1
35°	1608.1	1610.0	1663.4	1688.2	1708.2
37.5°	1549.1	1554.8	1611.9	1641.5	1667.2
40°	1483.3	1496.7	1557.6	1593.8	1620.5
42.5°	1417.6	1435.7	1502.4	1544.3	1571.9
45°	1350.9	1370.9	1444.3	1493.8	1523.3
47.5°	1279.5	1305.2	1384.3	1440.5	1472.9
50°	1202.3	1237.5	1322.3	1388.1	1420.5
52.5°	1128.0	1168.0	1259.5	1333.8	1368.1
55°	1052.7	1097.5	1196.6	1277.6	1318.5
57.5°	973.6	1022.2	1131.8	1220.4	1265.2
60°	893.6	948.9	1067.0	1165.1	1210.9
62.5°	810.7	873.6	1002.2	1108.0	1156.6
65°	725.9	796.4	938.4	1051.8	1102.3
67.5°	640.2	720.2	875.5	998.4	1049.9
70°	552.6	645.0	812.6	944.1	997.5
72.5°	466.8	571.6	751.7	888.9	945.1
75°	381.1	500.2	693.6	837.4	893.6
77.5°	299.1	432.5	636.4	786.9	843.1
80°	223.9	370.6	584.9	736.4	792.6
82.5°	154.3	315.3	534.5	687.8	743.1
85°	97.2	264.8	485.9	639.3	696.4
87.5°	46.7	220.1	439.2	593.5	649.7
90°	1.9	180.1	397.3	548.7	604.0
92.5°	0.0	147.7	356.3	504.9	559.2
95°	0.0	121.0	317.2	463.0	515.4
97.5°	0.0	100.0	282.9	423.9	474.4
100°	0.0	81.9	252.5	386.8	435.4
102.5°	0.0	69.5	223.9	351.5	398.2
105°	0.0	60.0	197.2	319.1	363.9
107.5°	0.0	51.4	176.2	289.6	331.5
110°	0.0	43.8	157.2	261.0	302.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	38.1	140.0	236.3	273.4
115°	0.0	33.3	125.8	210.5	246.7
117.5°	0.0	27.6	112.4	189.6	222.0
120°	0.0	23.8	100.0	170.5	199.1
122.5°	1.0	20.0	88.6	153.4	179.1
125°	1.0	16.2	78.1	137.2	161.0
127.5°	1.0	12.4	68.6	121.9	143.9
130°	1.0	9.5	59.1	107.7	126.7
132.5°	1.0	6.7	50.5	94.3	112.4
135°	1.0	3.8	41.9	81.9	97.2
137.5°	1.0	1.9	34.3	69.5	83.8
140°	1.0	1.0	27.6	59.1	71.5
142.5°	1.0	0.0	21.0	49.5	59.1
145°	1.0	1.0	16.2	39.1	48.6
147.5°	1.0	1.0	11.4	30.5	39.1
150°	1.0	1.0	6.7	21.9	29.5
152.5°	1.0	1.0	2.9	15.2	21.9
155°	1.0	1.0	1.0	9.5	14.3
157.5°	1.0	1.0	0.0	3.8	7.6
160°	1.9	1.0	0.0	0.0	1.9
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)