

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: P474064

Luminaire Tested: **24CZ2-45-S-UNV-L840-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474064
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-45-S-UNV-L840-CD1-U
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

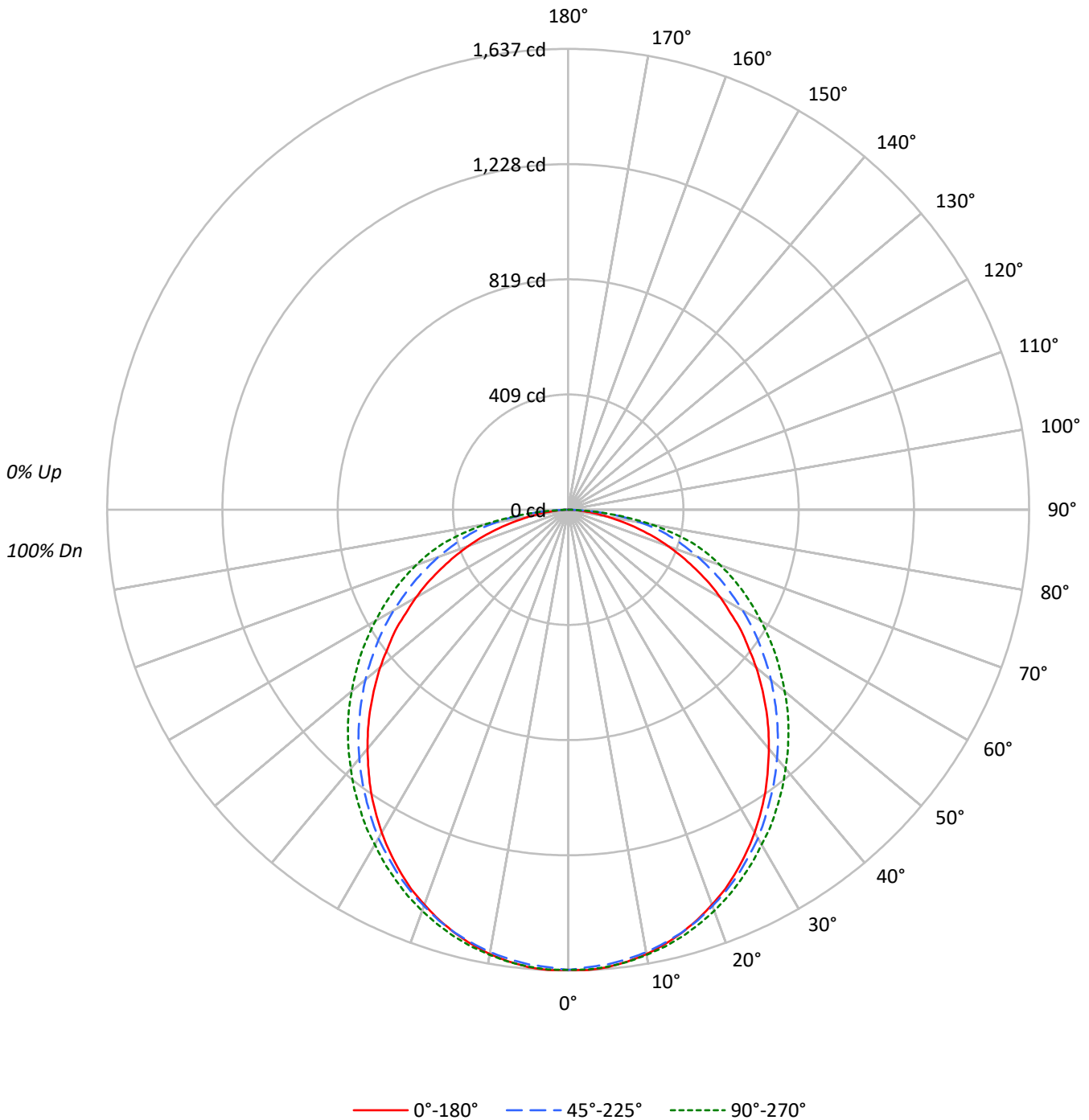
Lumens per Lamp: N/A
Luminaire Lumens: 4683.5 lumens
Efficiency: N/A
Efficacy: 134.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 34.9
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83
2	98	90	83	77	95	88	81	76	84	79	74	81	76	72	78	74	71	68
3	89	78	70	63	87	77	69	63	74	67	62	71	65	61	68	64	59	57
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	34	32
8	60	46	38	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2199	2199	2199
5°	2203	2189	2201
10°	2190	2181	2194
15°	2168	2167	2185
20°	2138	2145	2171
25°	2103	2121	2154
30°	2058	2094	2133
35°	2007	2057	2122
40°	1947	2027	2109
45°	1888	1995	2105
50°	1824	1968	2100
55°	1760	1943	2111
60°	1679	1925	2126
65°	1590	1918	2177
70°	1483	1928	2255
75°	1320	1984	2376
80°	1079	2027	2319
85°	760	1769	1805



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.5	3.3
10°-20°	440.2	9.4
20°-30°	659.8	14.1
30°-40°	785.9	16.8
40°-50°	810.3	17.3
50°-60°	739.4	15.8
60°-70°	591.3	12.6
70°-80°	386.2	8.2
80°-90°	116.0	2.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	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°	1254.5	26.8
0°-40°	2040.4	43.6
0°-60°	3590.1	76.7
0°-90°	4683.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4683.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1635	1635	1635	1635	1635	
5°	1631	1628	1621	1631	1629	155
15°	1556	1557	1556	1569	1569	439
25°	1416	1419	1429	1449	1451	652
35°	1222	1230	1252	1284	1292	763
45°	992	1010	1048	1092	1106	765
55°	750	772	828	883	900	668
65°	499	533	602	662	684	495
75°	254	296	382	443	457	270
85°	49	88	115	117	117	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1634.7	1634.7	1634.7	1634.7	1634.7
2.5°	1637.1	1634.7	1626.3	1636.3	1634.7
5°	1630.9	1627.8	1620.9	1630.9	1629.4
7.5°	1618.6	1617.1	1610.1	1621.7	1620.1
10°	1603.2	1601.7	1596.3	1607.8	1605.5
12.5°	1581.7	1580.9	1577.0	1590.9	1589.4
15°	1556.3	1557.0	1555.5	1568.6	1568.6
17.5°	1527.0	1526.3	1529.4	1545.5	1544.0
20°	1493.2	1494.0	1497.8	1516.3	1516.3
22.5°	1457.8	1457.0	1465.5	1484.0	1485.5
25°	1416.3	1418.6	1428.6	1449.3	1450.9
27.5°	1371.6	1375.5	1387.8	1411.6	1414.0
30°	1324.7	1329.3	1347.8	1370.1	1373.2
32.5°	1273.2	1283.2	1300.1	1328.6	1336.3
35°	1221.6	1230.1	1252.4	1283.9	1291.6
37.5°	1164.7	1178.6	1203.9	1238.6	1248.6
40°	1108.5	1122.4	1153.9	1190.1	1200.9
42.5°	1051.6	1066.2	1102.4	1143.2	1154.7
45°	992.4	1010.1	1048.5	1092.4	1106.2
47.5°	931.6	952.4	993.9	1041.6	1057.0
50°	871.6	892.4	940.1	989.3	1003.2
52.5°	807.0	833.1	883.9	937.0	950.8
55°	750.1	771.6	828.5	883.1	900.1
57.5°	683.1	712.4	773.1	828.5	844.7
60°	623.9	650.8	715.4	771.6	790.1
62.5°	563.9	591.6	656.2	720.1	737.0
65°	499.3	533.1	602.4	661.6	683.9
67.5°	437.7	473.1	543.9	607.0	630.0
70°	377.0	413.1	490.0	554.7	573.1
72.5°	316.9	354.6	434.6	497.7	519.3
75°	253.9	296.2	381.6	443.1	457.0
77.5°	194.6	241.6	327.7	369.3	379.3
80°	139.2	190.8	261.6	291.6	299.3
82.5°	91.5	141.5	195.4	211.6	209.2
85°	49.2	88.5	114.6	116.9	116.9
87.5°	19.2	35.4	36.2	27.7	26.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)