

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: P473864

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

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P473864
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-45-UNV-L840-CD1-U
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

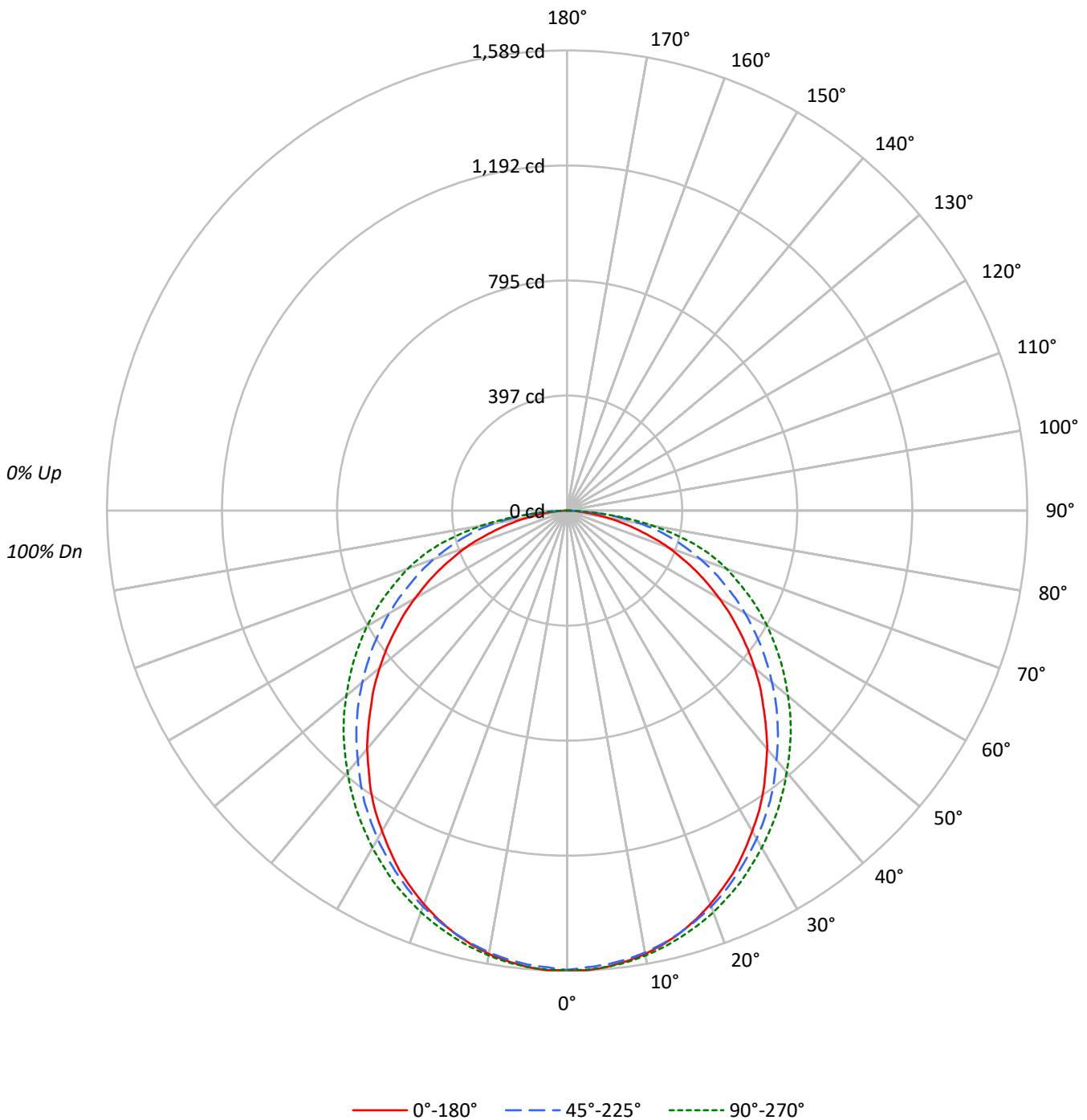
Lumens per Lamp: N/A
Luminaire Lumens: 4591.5 lumens
Efficiency: N/A
Efficacy: 131.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.36
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	89	82	76	95	88	81	75	84	78	74	81	76	72	78	74	70	68
3	89	78	70	63	87	77	69	63	74	67	61	71	65	60	68	63	59	57
4	82	69	60	53	79	68	59	53	65	58	52	63	57	51	61	55	51	48
5	75	62	53	46	73	61	52	46	58	51	45	56	50	44	55	49	44	42
6	69	56	46	40	67	55	46	40	53	45	39	51	44	39	49	43	39	37
7	64	50	41	35	62	50	41	35	48	40	35	47	40	35	45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	41	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2135	2135	2135
5°	2136	2125	2136
10°	2124	2117	2131
15°	2103	2102	2122
20°	2071	2084	2114
25°	2035	2058	2103
30°	1986	2034	2088
35°	1941	2008	2080
40°	1888	1975	2072
45°	1824	1955	2078
50°	1769	1933	2084
55°	1704	1919	2107
60°	1633	1910	2146
65°	1556	1904	2201
70°	1465	1923	2303
75°	1288	1963	2394
80°	1075	1977	2311
85°	767	1695	1718



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.0	3.3
10°-20°	427.2	9.3
20°-30°	640.9	14.0
30°-40°	765.2	16.7
40°-50°	792.6	17.3
50°-60°	729.7	15.9
60°-70°	588.6	12.8
70°-80°	384.6	8.4
80°-90°	112.8	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°	1218.1	26.5
0°-40°	1983.3	43.2
0°-60°	3505.6	76.3
0°-90°	4591.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4591.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1587	1587	1587	1587	1587	
5°	1582	1580	1573	1582	1582	150
15°	1510	1510	1509	1524	1524	425
25°	1371	1374	1386	1412	1417	630
35°	1182	1192	1222	1256	1266	738
45°	958	982	1027	1073	1092	741
55°	726	757	818	878	898	650
65°	489	522	598	666	691	483
75°	248	294	378	443	461	264
85°	50	86	110	116	111	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1586.7	1586.7	1586.7	1586.7	1586.7
2.5°	1588.9	1586.7	1578.5	1588.1	1587.4
5°	1581.5	1580.0	1573.3	1582.2	1581.5
7.5°	1569.6	1568.9	1563.7	1573.3	1573.3
10°	1554.8	1553.3	1549.6	1560.7	1560.0
12.5°	1534.0	1533.3	1531.0	1544.4	1543.6
15°	1509.5	1509.5	1508.8	1523.6	1523.6
17.5°	1479.8	1480.6	1483.6	1500.6	1501.4
20°	1446.5	1449.4	1455.4	1474.7	1476.1
22.5°	1408.6	1414.6	1422.7	1444.2	1446.5
25°	1370.8	1373.8	1386.4	1411.6	1416.8
27.5°	1324.8	1332.2	1348.6	1374.5	1379.7
30°	1278.1	1288.5	1309.2	1335.9	1344.1
32.5°	1232.1	1241.0	1265.5	1295.9	1305.5
35°	1181.7	1192.0	1222.5	1255.8	1266.2
37.5°	1126.0	1142.3	1174.2	1212.8	1223.9
40°	1074.8	1089.7	1124.5	1167.6	1179.4
42.5°	1016.2	1034.8	1077.1	1120.8	1135.7
45°	958.4	982.1	1027.4	1073.4	1091.9
47.5°	904.2	923.5	976.9	1028.8	1045.2
50°	844.9	867.1	923.5	978.4	995.5
52.5°	786.3	813.0	870.1	928.0	946.5
55°	726.2	757.4	818.2	878.3	898.3
57.5°	668.3	699.5	762.5	826.3	847.1
60°	606.8	640.2	709.9	771.5	797.4
62.5°	547.4	580.8	654.2	721.0	745.5
65°	488.8	522.2	597.9	666.1	691.3
67.5°	428.0	464.4	545.2	611.2	635.7
70°	372.4	407.2	488.8	559.3	585.3
72.5°	308.6	350.1	433.2	502.9	527.4
75°	247.8	294.5	377.6	442.8	460.6
77.5°	191.4	238.1	321.2	370.1	381.3
80°	138.7	186.2	255.2	289.3	298.2
82.5°	89.8	138.7	184.7	207.7	210.7
85°	49.7	86.0	109.8	116.5	111.3
87.5°	17.8	32.6	31.9	26.0	20.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)