

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: FAIL-SAFE

Report Number: P233196

Luminaire Tested: **FCB-24-4-LD4-50-50-UNV-EDD1-WDP6**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P233196  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25697)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FCB-24-4-LD4-50-50-UNV-EDD1-WDP6  
Description: FAILSAFE 2X4 FCB LED TROFFER  
.060 POLYCARBONATE LENS  
Light Source: (168)5000K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

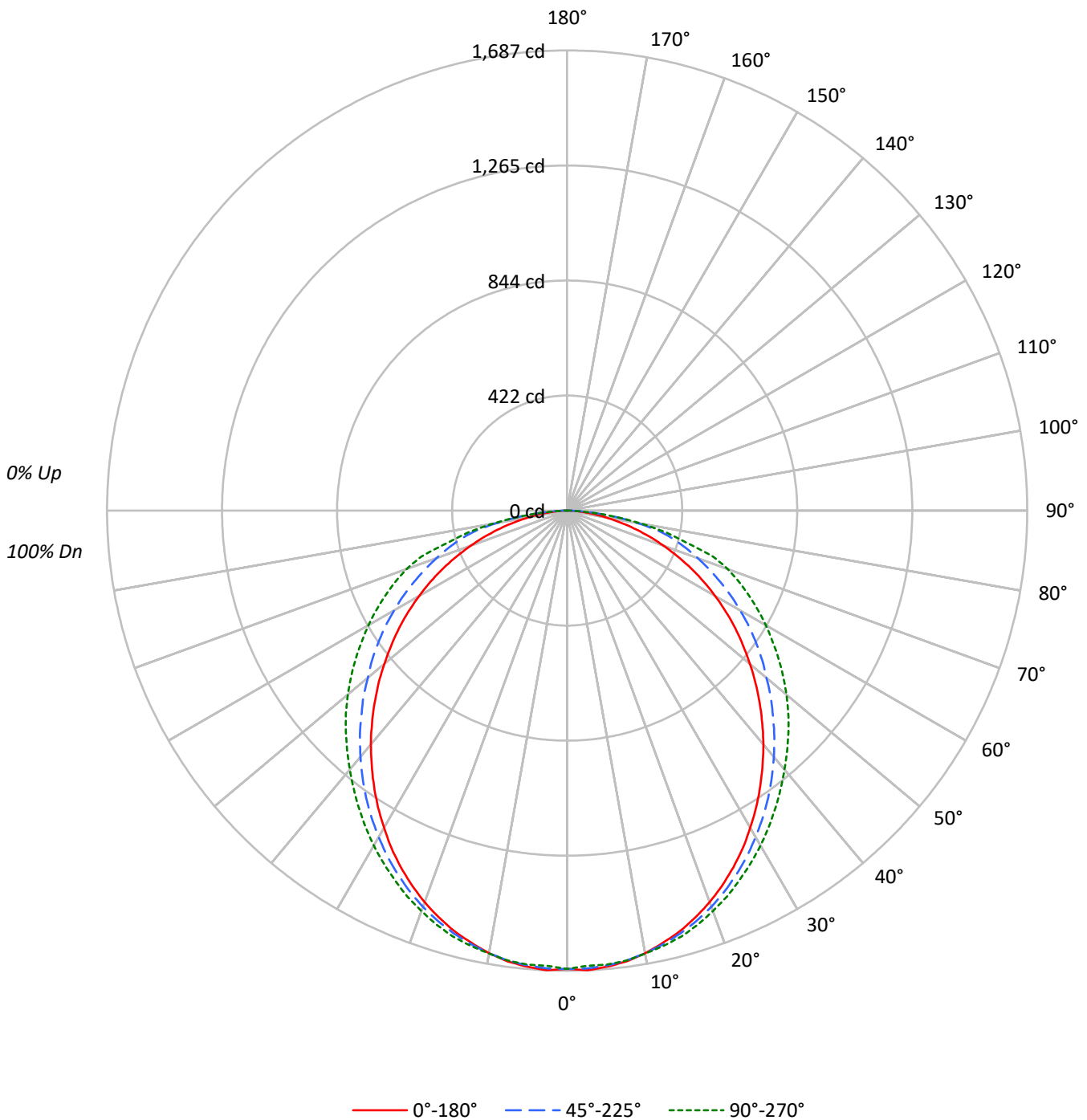
Lumens per Lamp: N/A  
Luminaire Lumens: 4788.0 lumens  
Efficiency: N/A  
Efficacy: 117.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 40.7  
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	106	101	97	93	97	93	90	93	90	88	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	60	57
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	56	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	35	32
8	60	46	38	32	58	45	37	32	44	37	31	43	36	31	42	36	31	29
9	56	42	34	28	54	42	34	28	41	33	28	40	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	38	31	26	37	30	25	36	30	25	24

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

	0°	45°	90°
0°	2261	2261	2261
5°	2267	2261	2256
10°	2251	2251	2253
15°	2224	2236	2252
20°	2188	2213	2237
25°	2142	2183	2220
30°	2086	2147	2203
35°	2028	2111	2187
40°	1967	2070	2177
45°	1900	2031	2183
50°	1832	1997	2196
55°	1765	1984	2219
60°	1685	1972	2263
65°	1597	1973	2338
70°	1477	2006	2463
75°	1321	2097	2344
80°	1105	2007	2147
85°	835	1544	1468



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.8	3.3
10°-20°	451.9	9.4
20°-30°	675.6	14.1
30°-40°	801.5	16.7
40°-50°	824.9	17.2
50°-60°	756.8	15.8
60°-70°	611.9	12.8
70°-80°	397.1	8.3
80°-90°	109.5	2.3
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°	1286.3	26.9
0°-40°	2087.8	43.6
0°-60°	3669.5	76.6
0°-90°	4788.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4788.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1680	1680	1680	1680	1680	
5°	1679	1667	1674	1672	1670	159
15°	1597	1590	1605	1612	1616	450
25°	1443	1444	1470	1484	1495	664
35°	1234	1244	1285	1313	1331	772
45°	998	1015	1067	1118	1148	770
55°	752	775	846	915	946	672
65°	502	531	620	702	734	496
75°	254	302	403	451	451	270
85°	54	92	100	97	95	66
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1680.3	1680.3	1680.3	1680.3	1680.3
2.5°	1686.9	1673.8	1680.3	1678.7	1670.5
5°	1678.7	1667.2	1673.8	1672.1	1670.5
7.5°	1667.2	1655.7	1663.9	1662.3	1663.9
10°	1647.6	1637.7	1647.6	1649.2	1649.2
12.5°	1623.0	1614.8	1627.9	1631.2	1634.4
15°	1596.7	1590.2	1604.9	1611.5	1616.4
17.5°	1563.9	1559.0	1577.1	1585.3	1591.8
20°	1527.9	1526.2	1545.9	1554.1	1562.3
22.5°	1486.9	1486.9	1509.8	1519.7	1531.2
25°	1442.6	1444.3	1470.5	1483.6	1495.1
27.5°	1395.1	1396.7	1427.9	1444.3	1457.4
30°	1342.6	1349.2	1382.0	1403.3	1418.0
32.5°	1290.2	1298.4	1334.4	1359.0	1375.4
35°	1234.4	1244.3	1285.3	1313.1	1331.2
37.5°	1177.1	1188.5	1232.8	1263.9	1285.3
40°	1119.7	1132.8	1178.7	1214.8	1239.4
42.5°	1059.0	1073.8	1124.6	1167.2	1193.5
45°	998.4	1014.8	1067.2	1118.0	1147.5
47.5°	937.7	957.4	1013.1	1068.9	1100.0
50°	875.4	895.1	954.1	1018.0	1049.2
52.5°	813.1	836.1	901.6	967.2	998.4
55°	752.5	775.4	845.9	914.8	945.9
57.5°	690.2	713.1	790.2	862.3	893.4
60°	626.2	652.5	732.8	806.6	841.0
62.5°	563.9	591.8	677.1	755.7	788.5
65°	501.6	531.2	619.7	701.6	734.4
67.5°	437.7	472.1	563.9	647.5	682.0
70°	375.4	413.1	509.8	593.4	626.2
72.5°	314.8	355.7	455.7	541.0	560.7
75°	254.1	301.6	403.3	450.8	450.8
77.5°	196.7	249.2	344.3	362.3	372.1
80°	142.6	200.0	259.0	280.3	277.1
82.5°	95.1	152.5	185.2	185.2	180.3
85°	54.1	91.8	100.0	96.7	95.1
87.5°	23.0	34.4	31.1	24.6	21.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)