

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: P233199

Luminaire Tested: **FCB-24-4-LD4-60-40-UNV-EDD1-WDP6**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P233199  
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-LD4-60-40-UNV-EDD1-WDP6  
Description: FAILSAFE 2X4 FCB LED TROFFER  
.060 POLYCARBONATE LENS  
Light Source: (168)4000K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

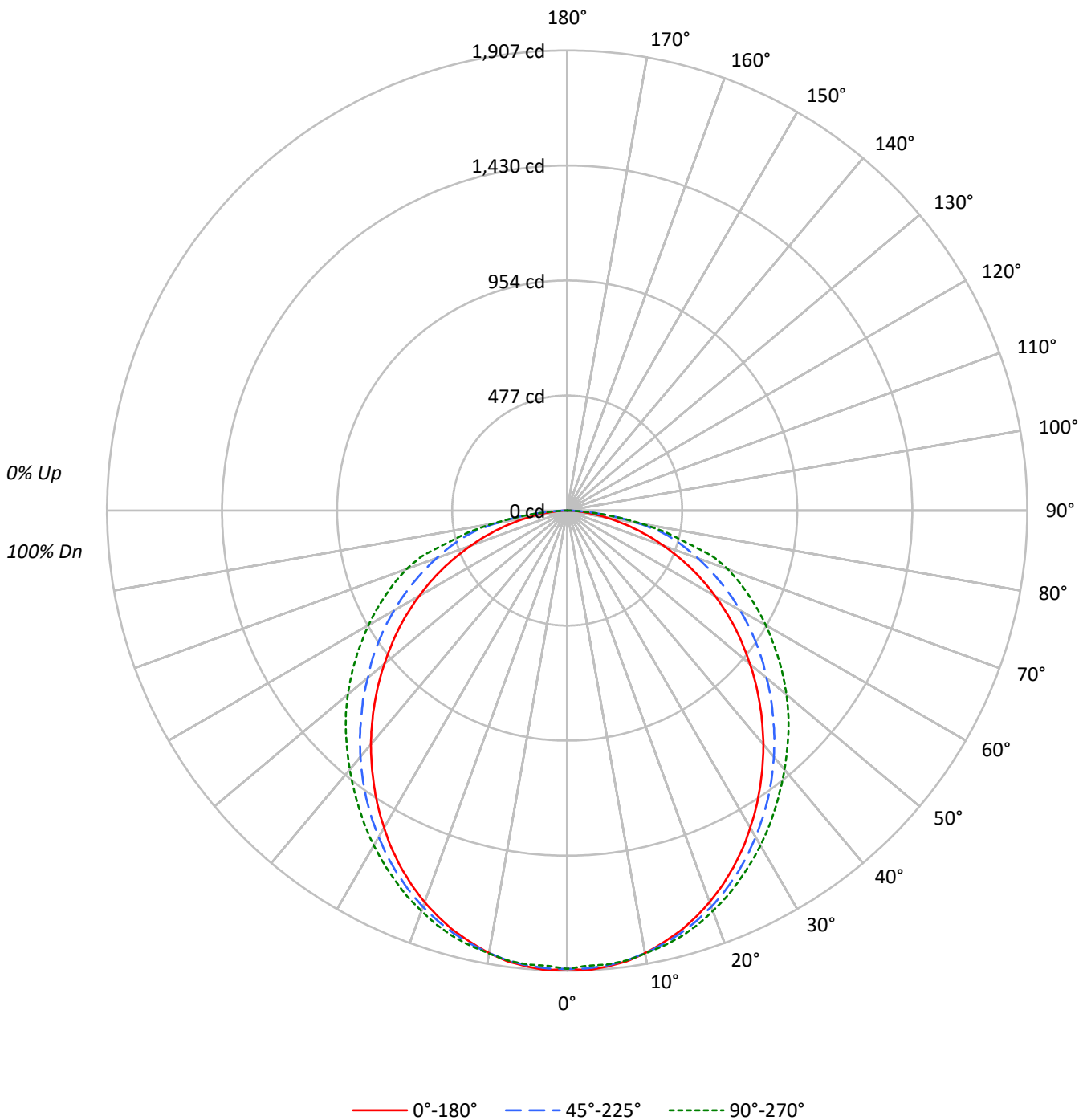
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5412.0 lumens  
Efficiency: N/A  
Efficacy: 103.7 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): 52.2  
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°	2555	2555	2555
5°	2563	2555	2550
10°	2544	2544	2547
15°	2514	2527	2545
20°	2473	2502	2528
25°	2421	2468	2509
30°	2358	2427	2490
35°	2292	2386	2471
40°	2223	2340	2461
45°	2147	2295	2468
50°	2071	2257	2482
55°	1995	2243	2508
60°	1905	2229	2558
65°	1805	2230	2643
70°	1669	2267	2784
75°	1493	2370	2649
80°	1249	2269	2427
85°	943	1744	1660



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	179.5	3.3
10°-20°	510.8	9.4
20°-30°	763.7	14.1
30°-40°	905.9	16.7
40°-50°	932.4	17.2
50°-60°	855.4	15.8
60°-70°	691.6	12.8
70°-80°	448.9	8.3
80°-90°	123.8	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°	1454.0	26.9
0°-40°	2359.9	43.6
0°-60°	4147.7	76.6
0°-90°	5412.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5412.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1899	1899	1899	1899	1899	
5°	1898	1884	1892	1890	1888	180
15°	1805	1797	1814	1822	1827	508
25°	1631	1632	1662	1677	1690	751
35°	1395	1406	1453	1484	1505	873
45°	1128	1147	1206	1264	1297	871
55°	850	876	956	1034	1069	760
65°	567	600	700	793	830	560
75°	287	341	456	510	510	305
85°	61	104	113	109	108	75
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1899.3	1899.3	1899.3	1899.3	1899.3
2.5°	1906.7	1891.9	1899.3	1897.5	1888.2
5°	1897.5	1884.5	1891.9	1890.1	1888.2
7.5°	1884.5	1871.5	1880.8	1878.9	1880.8
10°	1862.3	1851.2	1862.3	1864.1	1864.1
12.5°	1834.5	1825.2	1840.0	1843.7	1847.4
15°	1804.8	1797.4	1814.1	1821.5	1827.1
17.5°	1767.8	1762.2	1782.6	1791.9	1799.3
20°	1727.0	1725.1	1747.4	1756.6	1765.9
22.5°	1680.7	1680.7	1706.6	1717.7	1730.7
25°	1630.6	1632.5	1662.1	1677.0	1689.9
27.5°	1576.9	1578.8	1614.0	1632.5	1647.3
30°	1517.6	1525.0	1562.1	1586.2	1602.8
32.5°	1458.3	1467.6	1508.3	1536.1	1554.7
35°	1395.3	1406.4	1452.8	1484.3	1504.6
37.5°	1330.5	1343.4	1393.5	1428.7	1452.8
40°	1265.6	1280.4	1332.3	1373.1	1400.9
42.5°	1197.0	1213.7	1271.2	1319.3	1349.0
45°	1128.5	1147.0	1206.3	1263.7	1297.1
47.5°	1059.9	1082.2	1145.2	1208.2	1243.4
50°	989.5	1011.7	1078.4	1150.7	1185.9
52.5°	919.1	945.0	1019.2	1093.3	1128.5
55°	850.5	876.5	956.2	1034.0	1069.2
57.5°	780.1	806.1	893.1	974.7	1009.9
60°	707.8	737.5	828.3	911.7	950.6
62.5°	637.4	668.9	765.3	854.2	891.3
65°	567.0	600.4	700.4	793.1	830.1
67.5°	494.8	533.7	637.4	731.9	770.9
70°	424.3	467.0	576.3	670.8	707.8
72.5°	355.8	402.1	515.1	611.5	633.7
75°	287.2	341.0	455.8	509.6	509.6
77.5°	222.4	281.7	389.1	409.5	420.6
80°	161.2	226.1	292.8	316.9	313.2
82.5°	107.5	172.3	209.4	209.4	203.8
85°	61.1	103.8	113.0	109.3	107.5
87.5°	25.9	38.9	35.2	27.8	24.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)