

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: P314409

Luminaire Tested: **24FCZ2-50-UNV-L83050-S-CP187-W2A-U-5000K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P314409  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-50-UNV-L83050-S-CP187-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 5000K TUNABLE CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

Luminaire Equipment:	<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
	AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
	AS-5443-2	Good	REFLECTOR
	AS-5443-3	Good	DRIVER
	AS-5443-4	Good	UPPER MODULE
	AS-5443-5	Good	LENS
	AS-5443-6	Good	DRIVER 2
	AS-5443-7	Good	TRIM RING

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4766.0 lumens  
Efficiency: N/A  
Efficacy: 106.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

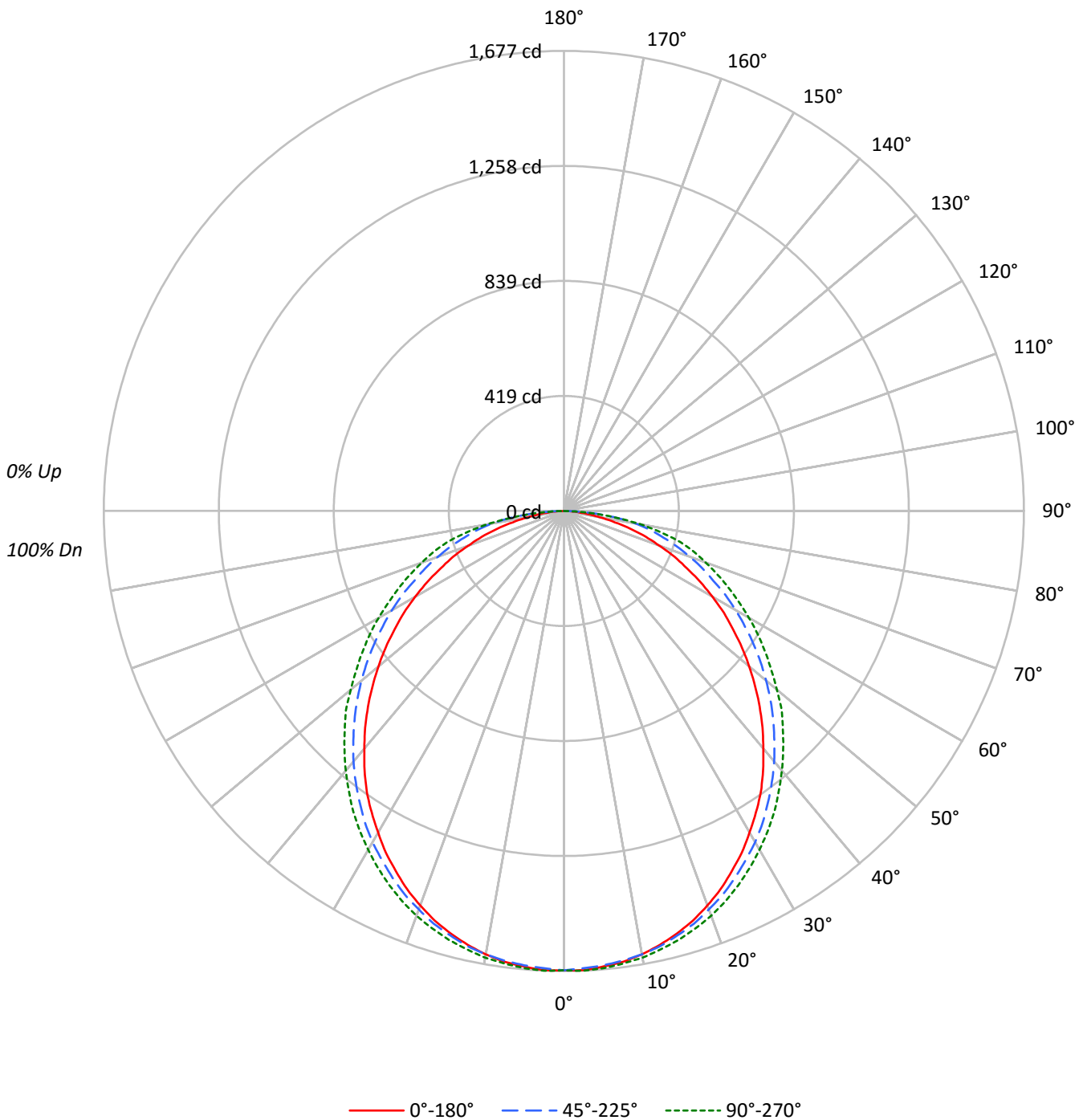
Input Watts (W): 44.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	2253	2253	2253
5°	2251	2245	2259
10°	2242	2242	2259
15°	2221	2231	2254
20°	2191	2213	2248
25°	2151	2191	2234
30°	2103	2166	2216
35°	2056	2131	2198
40°	1986	2095	2172
45°	1921	2054	2149
50°	1847	2015	2123
55°	1765	1978	2102
60°	1682	1947	2098
65°	1576	1913	2111
70°	1459	1924	2168
75°	1306	1960	2290
80°	1055	2077	2240
85°	795	1823	1777



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.5	3.3
10°-20°	452.9	9.5
20°-30°	680.8	14.3
30°-40°	811.0	17.0
40°-50°	830.0	17.4
50°-60°	747.3	15.7
60°-70°	586.8	12.3
70°-80°	380.9	8.0
80°-90°	117.8	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°	1292.3	27.1
0°-40°	2103.3	44.1
0°-60°	3680.5	77.2
0°-90°	4766.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4766.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1674	1674	1674	1674	1674	
5°	1667	1670	1662	1671	1673	158
15°	1594	1599	1602	1615	1618	449
25°	1449	1461	1476	1500	1505	667
35°	1252	1267	1297	1329	1338	781
45°	1010	1034	1079	1120	1129	778
55°	752	786	843	887	896	675
65°	495	533	601	651	663	493
75°	251	300	377	428	440	266
85°	52	95	118	115	115	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1674.3	1674.3	1674.3	1674.3	1674.3
2.5°	1675.8	1675.8	1668.3	1675.8	1677.4
5°	1666.8	1669.8	1662.2	1671.3	1672.8
7.5°	1657.7	1657.7	1653.1	1662.2	1663.7
10°	1641.0	1642.5	1641.0	1651.6	1653.1
12.5°	1619.8	1622.9	1624.4	1635.0	1636.5
15°	1594.1	1598.6	1601.7	1615.3	1618.3
17.5°	1565.3	1569.9	1577.4	1592.6	1595.6
20°	1530.5	1536.6	1545.6	1565.3	1569.9
22.5°	1492.7	1498.7	1513.9	1532.0	1539.6
25°	1448.8	1460.9	1476.0	1500.2	1504.8
27.5°	1404.9	1415.5	1435.1	1460.9	1466.9
30°	1353.4	1370.0	1394.3	1420.0	1426.1
32.5°	1303.4	1320.1	1348.8	1376.1	1383.7
35°	1252.0	1267.1	1297.4	1329.2	1338.3
37.5°	1192.9	1212.6	1245.9	1277.7	1286.8
40°	1130.9	1155.1	1192.9	1226.2	1236.8
42.5°	1071.8	1097.5	1135.4	1171.7	1183.8
45°	1009.7	1034.0	1079.4	1120.3	1129.3
47.5°	946.2	973.4	1021.9	1062.7	1077.9
50°	882.6	911.3	962.8	1005.2	1014.3
52.5°	819.0	849.3	903.8	949.2	953.7
55°	752.4	785.7	843.2	887.1	896.2
57.5°	691.8	720.6	782.7	828.1	838.7
60°	625.2	657.0	723.6	766.0	779.6
62.5°	561.6	594.9	664.6	707.0	719.1
65°	495.0	532.9	601.0	651.0	663.1
67.5°	437.5	473.8	546.5	594.9	607.1
70°	370.9	411.8	489.0	538.9	551.0
72.5°	313.4	355.8	433.0	481.4	499.6
75°	251.3	299.7	377.0	428.4	440.5
77.5°	190.7	246.8	325.5	364.8	364.8
80°	136.2	195.3	268.0	286.1	289.1
82.5°	89.3	146.8	198.3	196.8	196.8
85°	51.5	95.4	118.1	115.1	115.1
87.5°	19.7	39.4	42.4	42.4	40.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)