

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: P314382

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-S-CP187-W2A-U-4000K**

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: P314382  
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: 24FCZ2-50HE-UNV-L83050-S-CP187-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 4000K 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: 4744.0 lumens  
Efficiency: N/A  
Efficacy: 120.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

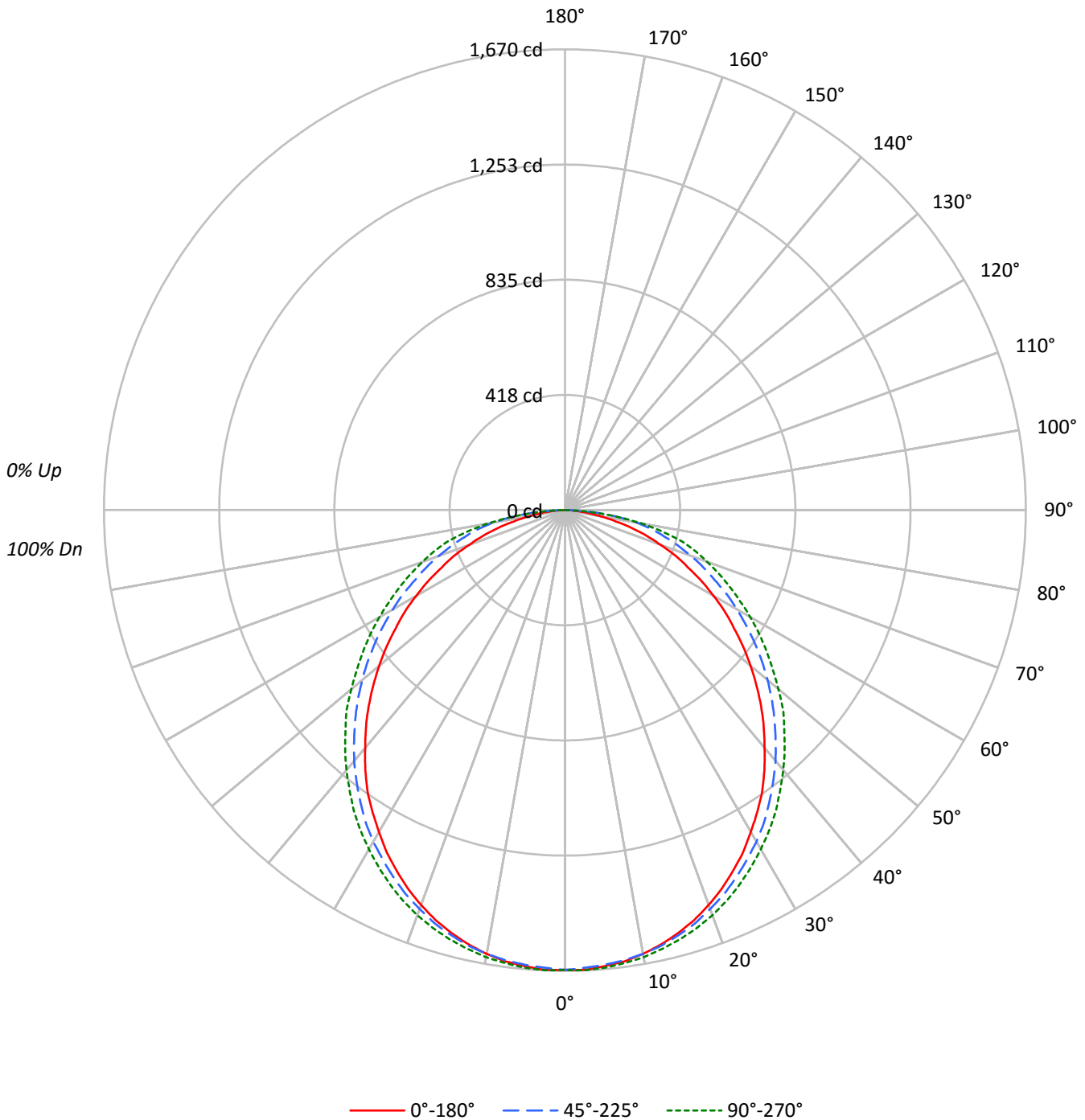
Input Watts (W): 39.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2242	2242	2242
5°	2241	2235	2249
10°	2232	2232	2248
15°	2210	2221	2244
20°	2181	2203	2237
25°	2141	2181	2224
30°	2093	2156	2205
35°	2047	2121	2188
40°	1977	2086	2162
45°	1913	2044	2139
50°	1839	2006	2113
55°	1757	1969	2093
60°	1675	1938	2088
65°	1569	1904	2101
70°	1452	1915	2158
75°	1300	1951	2280
80°	1051	2066	2230
85°	790	1814	1768



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.8	3.3
10°-20°	450.8	9.5
20°-30°	677.7	14.3
30°-40°	807.2	17.0
40°-50°	826.2	17.4
50°-60°	743.8	15.7
60°-70°	584.1	12.3
70°-80°	379.1	8.0
80°-90°	117.2	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°	1286.3	27.1
0°-40°	2093.5	44.1
0°-60°	3663.5	77.2
0°-90°	4744.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4744.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1667	1667	1667	1667	1667	
5°	1659	1662	1654	1664	1665	158
15°	1587	1591	1594	1608	1611	447
25°	1442	1454	1469	1493	1498	664
35°	1246	1261	1291	1323	1332	777
45°	1005	1029	1074	1115	1124	775
55°	749	782	839	883	892	671
65°	493	530	598	648	660	490
75°	250	298	375	426	438	265
85°	51	95	118	114	114	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1666.6	1666.6	1666.6	1666.6	1666.6
2.5°	1668.1	1668.1	1660.6	1668.1	1669.6
5°	1659.1	1662.1	1654.5	1663.6	1665.1
7.5°	1650.0	1650.0	1645.5	1654.5	1656.1
10°	1633.4	1635.0	1633.4	1644.0	1645.5
12.5°	1612.4	1615.4	1616.9	1627.4	1628.9
15°	1586.7	1591.3	1594.3	1607.8	1610.8
17.5°	1558.1	1562.6	1570.2	1585.2	1588.2
20°	1523.4	1529.5	1538.5	1558.1	1562.6
22.5°	1485.8	1491.8	1506.9	1525.0	1532.5
25°	1442.1	1454.1	1469.2	1493.3	1497.8
27.5°	1398.4	1408.9	1428.5	1454.1	1460.2
30°	1347.1	1363.7	1387.8	1413.4	1419.5
32.5°	1297.4	1314.0	1342.6	1369.7	1377.3
35°	1246.2	1261.3	1291.4	1323.0	1332.1
37.5°	1187.4	1207.0	1240.2	1271.8	1280.8
40°	1125.6	1149.7	1187.4	1220.6	1231.1
42.5°	1066.9	1092.5	1130.2	1166.3	1178.4
45°	1005.1	1029.2	1074.4	1115.1	1124.1
47.5°	941.8	968.9	1017.1	1057.8	1072.9
50°	878.5	907.1	958.4	1000.6	1009.6
52.5°	815.2	845.4	899.6	944.8	949.3
55°	748.9	782.1	839.3	883.0	892.1
57.5°	688.6	717.3	779.1	824.3	834.8
60°	622.3	654.0	720.3	762.5	776.0
62.5°	559.0	592.2	661.5	703.7	715.8
65°	492.7	530.4	598.2	648.0	660.0
67.5°	435.5	471.7	544.0	592.2	604.3
70°	369.2	409.9	486.7	536.4	548.5
72.5°	311.9	354.1	431.0	479.2	497.3
75°	250.1	298.4	375.2	426.4	438.5
77.5°	189.9	245.6	324.0	363.2	363.2
80°	135.6	194.4	266.7	284.8	287.8
82.5°	88.9	146.2	197.4	195.9	195.9
85°	51.2	94.9	117.5	114.5	114.5
87.5°	19.6	39.2	42.2	42.2	40.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)