

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: P314341

Luminaire Tested: **24FCZ2-45-UNV-L83050-S-CA08-W2A-U-3500K**

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: P314341  
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: 24FCZ2-45-UNV-L83050-S-CA08-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 3500K 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

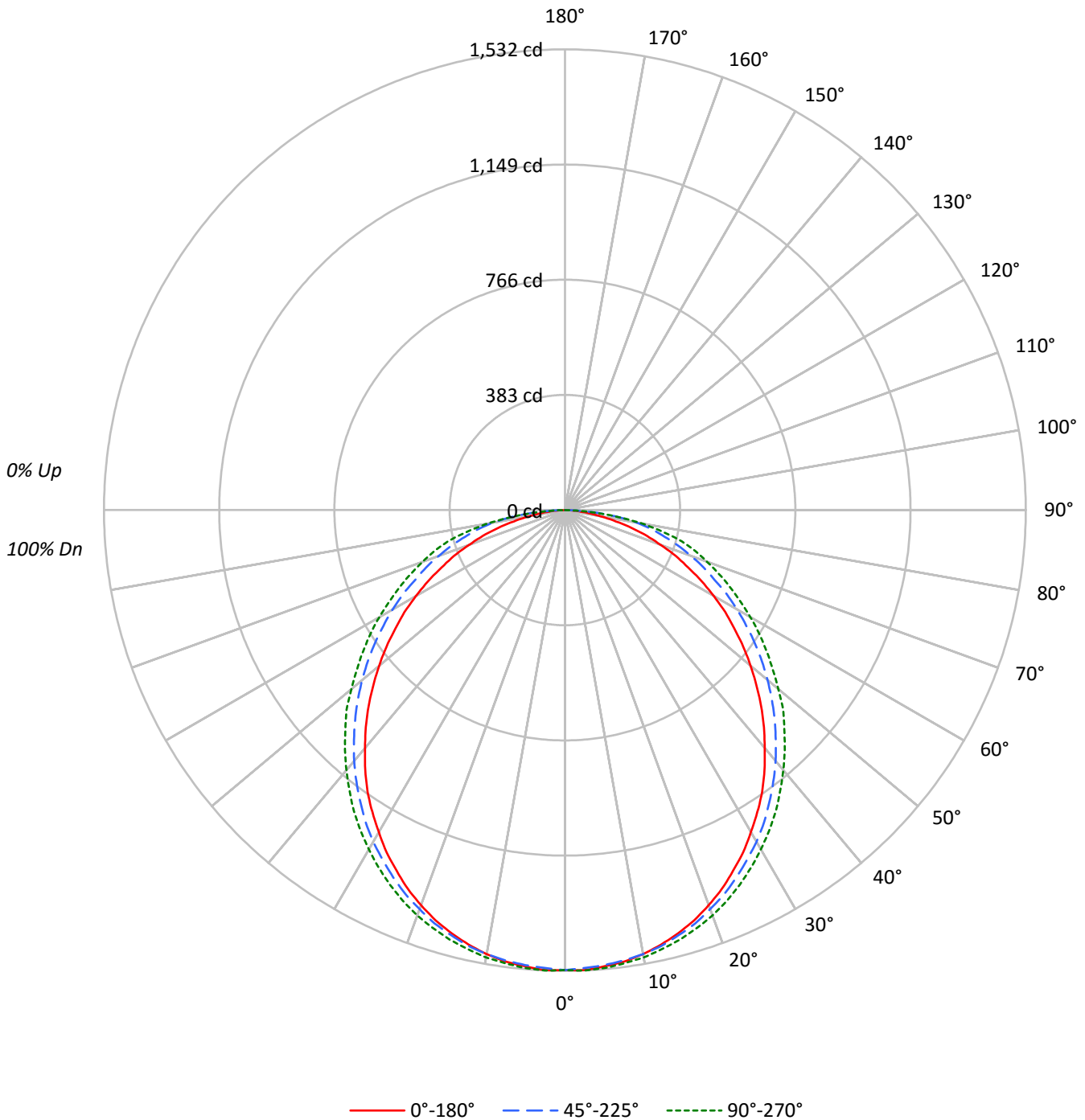
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4354.0 lumens  
Efficiency: N/A  
Efficacy: 115.8 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): 37.6  
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°	2058	2058	2058
5°	2057	2051	2064
10°	2048	2048	2063
15°	2029	2038	2059
20°	2002	2022	2054
25°	1965	2002	2041
30°	1921	1979	2024
35°	1879	1947	2008
40°	1815	1914	1985
45°	1755	1876	1963
50°	1688	1841	1940
55°	1612	1807	1920
60°	1537	1779	1917
65°	1440	1748	1929
70°	1333	1757	1980
75°	1194	1790	2092
80°	965	1897	2047
85°	726	1666	1623



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	144.8	3.3
10°-20°	413.8	9.5
20°-30°	622.0	14.3
30°-40°	740.9	17.0
40°-50°	758.3	17.4
50°-60°	682.6	15.7
60°-70°	536.1	12.3
70°-80°	347.9	8.0
80°-90°	107.6	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°	1180.6	27.1
0°-40°	1921.4	44.1
0°-60°	3362.3	77.2
0°-90°	4354.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4354.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1530	1530	1530	1530	1530	
5°	1523	1525	1518	1527	1528	145
15°	1456	1460	1463	1476	1478	411
25°	1324	1335	1348	1370	1375	610
35°	1144	1158	1185	1214	1223	714
45°	922	945	986	1023	1032	711
55°	687	718	770	810	819	616
65°	452	487	549	595	606	450
75°	230	274	344	391	402	243
85°	47	87	108	105	105	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1529.6	1529.6	1529.6	1529.6	1529.6
2.5°	1531.0	1531.0	1524.1	1531.0	1532.4
5°	1522.7	1525.4	1518.5	1526.8	1528.2
7.5°	1514.4	1514.4	1510.2	1518.5	1519.9
10°	1499.2	1500.5	1499.2	1508.8	1510.2
12.5°	1479.8	1482.6	1483.9	1493.6	1495.0
15°	1456.3	1460.4	1463.2	1475.7	1478.4
17.5°	1430.0	1434.2	1441.1	1454.9	1457.7
20°	1398.2	1403.7	1412.0	1430.0	1434.2
22.5°	1363.6	1369.2	1383.0	1399.6	1406.5
25°	1323.5	1334.6	1348.4	1370.5	1374.7
27.5°	1283.4	1293.1	1311.1	1334.6	1340.1
30°	1236.4	1251.6	1273.7	1297.2	1302.8
32.5°	1190.8	1206.0	1232.2	1257.1	1264.1
35°	1143.7	1157.6	1185.2	1214.3	1222.6
37.5°	1089.8	1107.8	1138.2	1167.2	1175.5
40°	1033.1	1055.2	1089.8	1120.2	1129.9
42.5°	979.2	1002.7	1037.2	1070.4	1081.5
45°	922.5	944.6	986.1	1023.4	1031.7
47.5°	864.4	889.3	933.5	970.9	984.7
50°	806.3	832.6	879.6	918.3	926.6
52.5°	748.2	775.9	825.6	867.1	871.3
55°	687.3	717.8	770.3	810.4	818.7
57.5°	632.0	658.3	715.0	756.5	766.2
60°	571.2	600.2	661.1	699.8	712.2
62.5°	513.1	543.5	607.1	645.9	656.9
65°	452.2	486.8	549.0	594.7	605.8
67.5°	399.7	432.9	499.3	543.5	554.6
70°	338.8	376.2	446.7	492.3	503.4
72.5°	286.3	325.0	395.5	439.8	456.4
75°	229.6	273.8	344.4	391.4	402.5
77.5°	174.3	225.4	297.3	333.3	333.3
80°	124.5	178.4	244.8	261.4	264.2
82.5°	81.6	134.2	181.2	179.8	179.8
85°	47.0	87.1	107.9	105.1	105.1
87.5°	18.0	36.0	38.7	38.7	37.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)