

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: P314037

Luminaire Tested: **24FCZ2-50-UNV-L83050-CP250-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: P314037  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)  
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-CP250-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET  
Light Source: (168) 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**

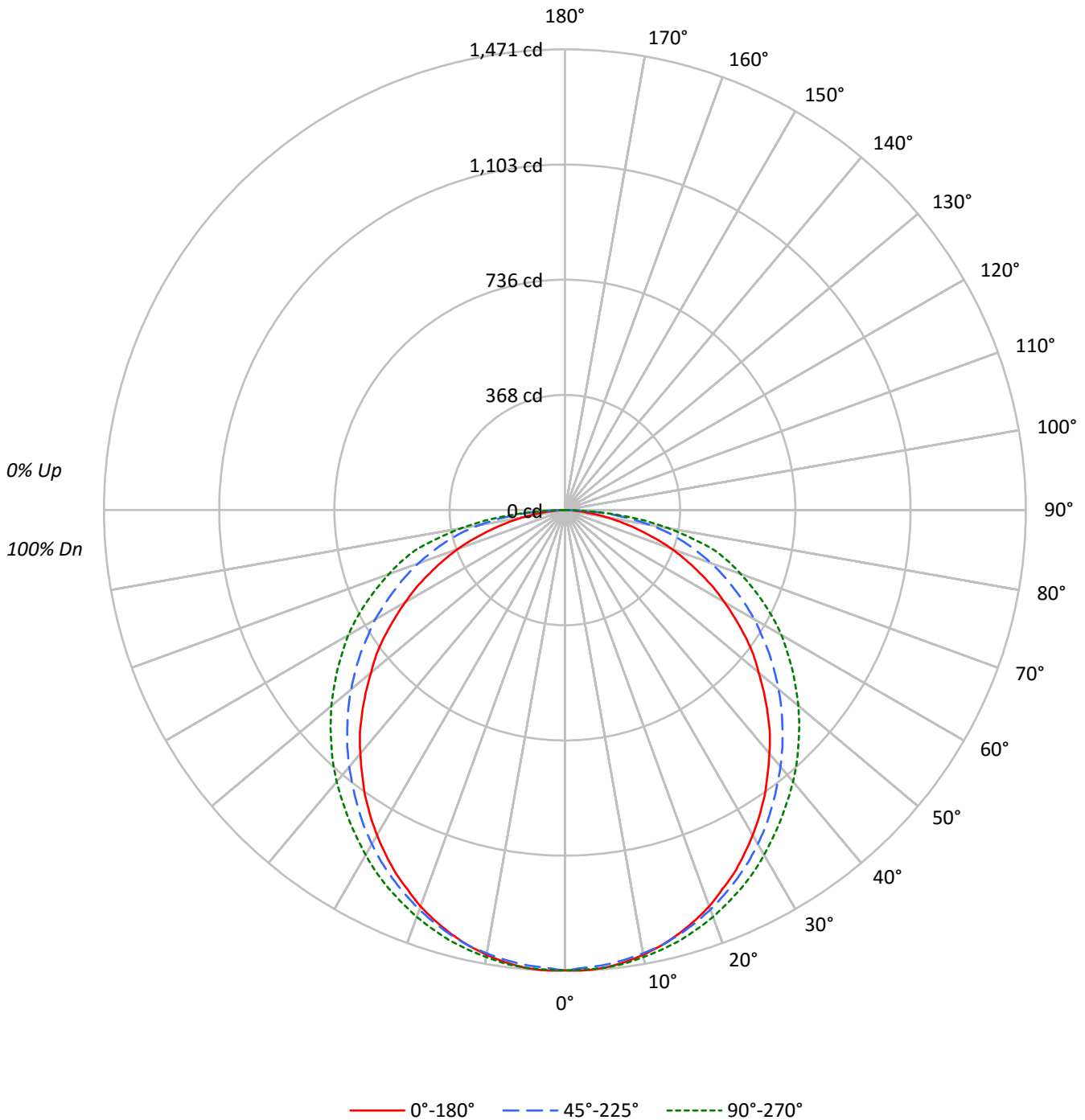
Lumens per Lamp: N/A  
Luminaire Lumens: 4456.0 lumens  
Efficiency: N/A  
Efficacy: 102.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.7  
Input Voltage (V): NR  
Input Current (A<sub>in</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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

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

	0°	45°	90°
0°	1977	1977	1977
5°	1981	1969	1981
10°	1969	1963	1980
15°	1952	1956	1981
20°	1928	1943	1979
25°	1898	1929	1978
30°	1863	1913	1975
35°	1826	1894	1977
40°	1784	1880	1989
45°	1741	1868	2006
50°	1690	1863	2036
55°	1647	1866	2077
60°	1583	1882	2148
65°	1511	1902	2226
70°	1431	1960	2350
75°	1276	2045	2567
80°	1088	2165	2624
85°	777	2146	2510



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.1	3.1
10°-20°	397.7	8.9
20°-30°	600.6	13.5
30°-40°	723.9	16.2
40°-50°	760.0	17.1
50°-60°	711.0	16.0
60°-70°	587.2	13.2
70°-80°	400.1	9.0
80°-90°	136.5	3.1
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°	1137.4	25.5
0°-40°	1861.3	41.8
0°-60°	3332.3	74.8
0°-90°	4456.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4456.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1470	1470	1470	1470	1470	
5°	1467	1465	1458	1467	1467	139
15°	1402	1403	1404	1419	1422	395
25°	1279	1285	1300	1325	1332	588
35°	1112	1124	1153	1192	1203	695
45°	915	934	982	1035	1054	706
55°	702	730	795	860	886	627
65°	475	514	597	673	699	471
75°	245	302	393	467	494	262
85°	50	99	139	157	163	63
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1469.6	1469.6	1469.6	1469.6	1469.6
2.5°	1471.0	1469.6	1462.2	1469.6	1468.1
5°	1466.6	1465.1	1457.7	1466.6	1466.6
7.5°	1456.2	1456.2	1448.9	1459.2	1460.7
10°	1441.5	1441.5	1437.0	1448.9	1448.9
12.5°	1423.7	1423.7	1423.7	1435.5	1437.0
15°	1401.5	1403.0	1404.5	1419.3	1422.2
17.5°	1374.9	1377.9	1382.3	1400.1	1403.0
20°	1346.8	1349.8	1357.2	1377.9	1382.3
22.5°	1311.4	1318.8	1329.1	1352.8	1357.2
25°	1278.8	1284.7	1299.5	1324.7	1332.1
27.5°	1238.9	1247.8	1267.0	1293.6	1304.0
30°	1199.0	1207.9	1231.5	1262.6	1271.4
32.5°	1156.1	1169.4	1194.6	1227.1	1237.4
35°	1111.8	1123.6	1153.2	1191.6	1203.4
37.5°	1063.0	1079.2	1111.8	1153.2	1168.0
40°	1015.7	1033.4	1070.4	1114.7	1132.5
42.5°	968.4	986.1	1027.5	1077.8	1095.5
45°	915.1	934.4	981.7	1034.9	1054.1
47.5°	861.9	885.6	937.3	993.5	1014.2
50°	807.2	833.8	890.0	949.1	972.8
52.5°	758.4	783.6	842.7	906.3	928.4
55°	702.2	730.3	795.4	860.4	885.6
57.5°	644.6	675.6	745.1	816.1	841.2
60°	588.4	622.4	699.3	770.3	798.3
62.5°	533.7	567.7	647.5	721.5	749.6
65°	474.6	514.5	597.3	672.7	699.3
67.5°	418.4	461.3	548.5	622.4	649.0
70°	363.7	405.1	498.2	570.7	597.3
72.5°	304.6	351.9	445.0	520.4	548.5
75°	245.4	301.6	393.3	467.2	493.8
77.5°	190.7	248.4	340.0	400.7	414.0
80°	140.4	199.6	279.4	322.3	338.6
82.5°	90.2	149.3	212.9	243.9	257.2
85°	50.3	99.1	139.0	156.7	162.6
87.5°	20.7	42.9	56.2	63.6	63.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)