

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: P314012

Luminaire Tested: **24FCZ2-50HE-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: P314012  
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: 24FCZ2-50HE-UNV-L83050-CP250-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" 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**

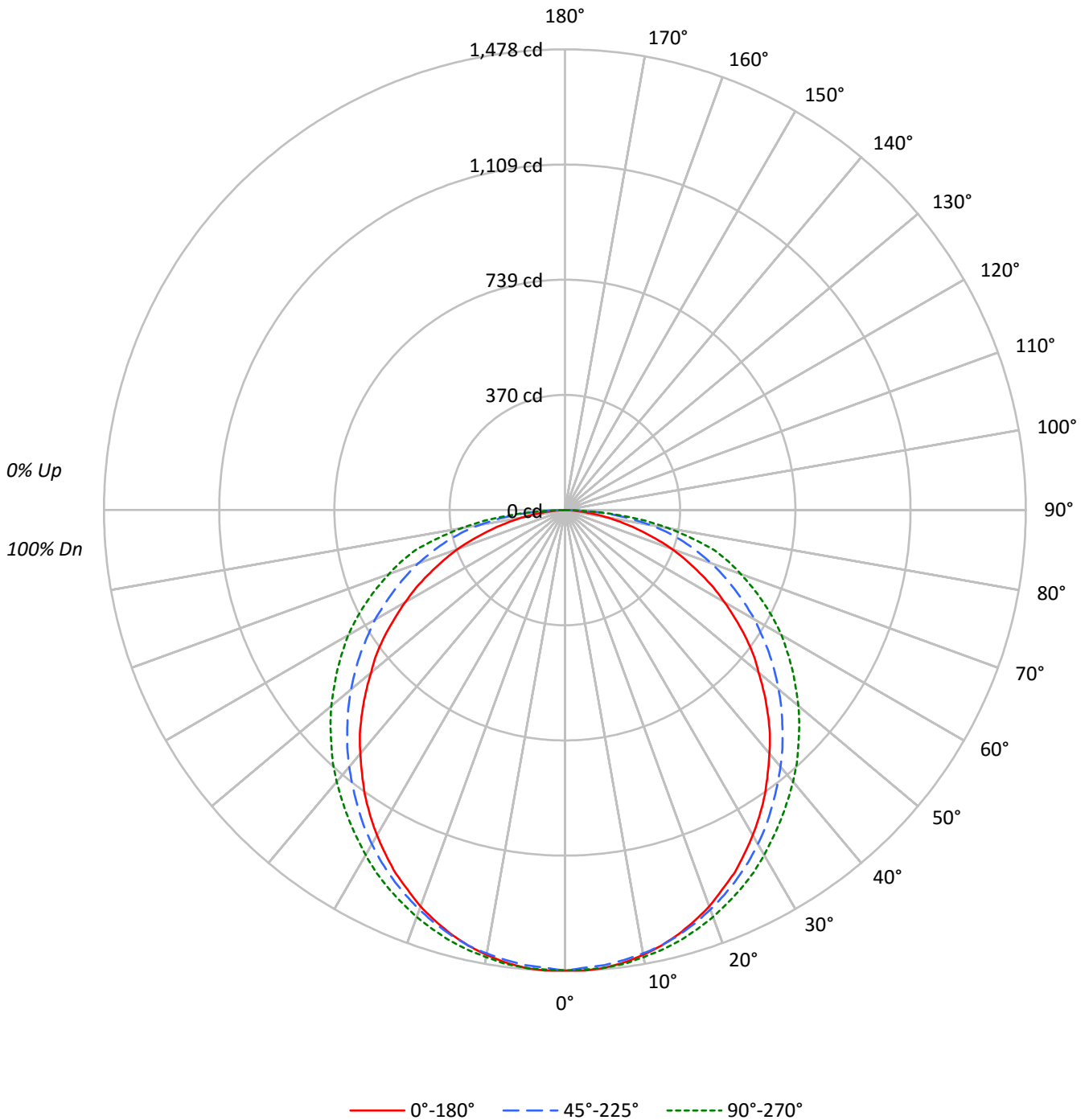
Lumens per Lamp: N/A  
Luminaire Lumens: 4478.0 lumens  
Efficiency: N/A  
Efficacy: 113.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 39.3  
Input Voltage (V): NR  
Input Current (A<sub>in</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	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°	1987	1987	1987
5°	1991	1979	1991
10°	1979	1973	1989
15°	1962	1966	1991
20°	1938	1953	1989
25°	1908	1939	1987
30°	1872	1923	1985
35°	1835	1904	1986
40°	1793	1889	1999
45°	1750	1877	2016
50°	1698	1872	2046
55°	1655	1875	2088
60°	1591	1891	2159
65°	1518	1911	2237
70°	1438	1970	2361
75°	1282	2054	2580
80°	1093	2176	2636
85°	780	2157	2523



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.8	3.1
10°-20°	399.6	8.9
20°-30°	603.6	13.5
30°-40°	727.5	16.2
40°-50°	763.7	17.1
50°-60°	714.5	16.0
60°-70°	590.0	13.2
70°-80°	402.1	9.0
80°-90°	137.1	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°	1143.0	25.5
0°-40°	1870.5	41.8
0°-60°	3348.7	74.8
0°-90°	4478.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4478.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1477	1477	1477	1477	1477	
5°	1474	1472	1465	1474	1474	140
15°	1408	1410	1411	1426	1429	397
25°	1285	1291	1306	1331	1339	591
35°	1117	1129	1159	1198	1209	698
45°	920	939	986	1040	1059	709
55°	706	734	799	865	890	630
65°	477	517	600	676	703	473
75°	247	303	395	470	496	263
85°	50	100	140	158	163	63
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1476.8	1476.8	1476.8	1476.8	1476.8
2.5°	1478.3	1476.8	1469.4	1476.8	1475.3
5°	1473.8	1472.3	1464.9	1473.8	1473.8
7.5°	1463.4	1463.4	1456.0	1466.4	1467.9
10°	1448.6	1448.6	1444.1	1456.0	1456.0
12.5°	1430.7	1430.7	1430.7	1442.6	1444.1
15°	1408.5	1409.9	1411.4	1426.3	1429.3
17.5°	1381.7	1384.7	1389.1	1407.0	1409.9
20°	1353.5	1356.5	1363.9	1384.7	1389.1
22.5°	1317.8	1325.3	1335.7	1359.4	1363.9
25°	1285.1	1291.1	1305.9	1331.2	1338.6
27.5°	1245.0	1253.9	1273.3	1300.0	1310.4
30°	1204.9	1213.8	1237.6	1268.8	1277.7
32.5°	1161.8	1175.2	1200.5	1233.1	1243.5
35°	1117.3	1129.1	1158.9	1197.5	1209.4
37.5°	1068.2	1084.6	1117.3	1158.9	1173.7
40°	1020.7	1038.5	1075.7	1120.2	1138.1
42.5°	973.1	991.0	1032.6	1083.1	1100.9
45°	919.7	939.0	986.5	1040.0	1059.3
47.5°	866.2	889.9	941.9	998.4	1019.2
50°	811.2	837.9	894.4	953.8	977.6
52.5°	762.2	787.4	846.9	910.7	933.0
55°	705.7	733.9	799.3	864.7	889.9
57.5°	647.8	679.0	748.8	820.1	845.4
60°	591.3	625.5	702.7	774.1	802.3
62.5°	536.3	570.5	650.7	725.0	753.3
65°	476.9	517.0	600.2	676.0	702.7
67.5°	420.5	463.5	551.2	625.5	652.2
70°	365.5	407.1	500.7	573.5	600.2
72.5°	306.1	353.6	447.2	523.0	551.2
75°	246.6	303.1	395.2	469.5	496.2
77.5°	191.7	249.6	341.7	402.6	416.0
80°	141.1	200.6	280.8	323.9	340.2
82.5°	90.6	150.1	213.9	245.1	258.5
85°	50.5	99.5	139.7	157.5	163.4
87.5°	20.8	43.1	56.5	63.9	63.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)