

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: P314008

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-CP187-W2A-U-4500K**

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: P314008  
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-CP187-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 4500K 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**

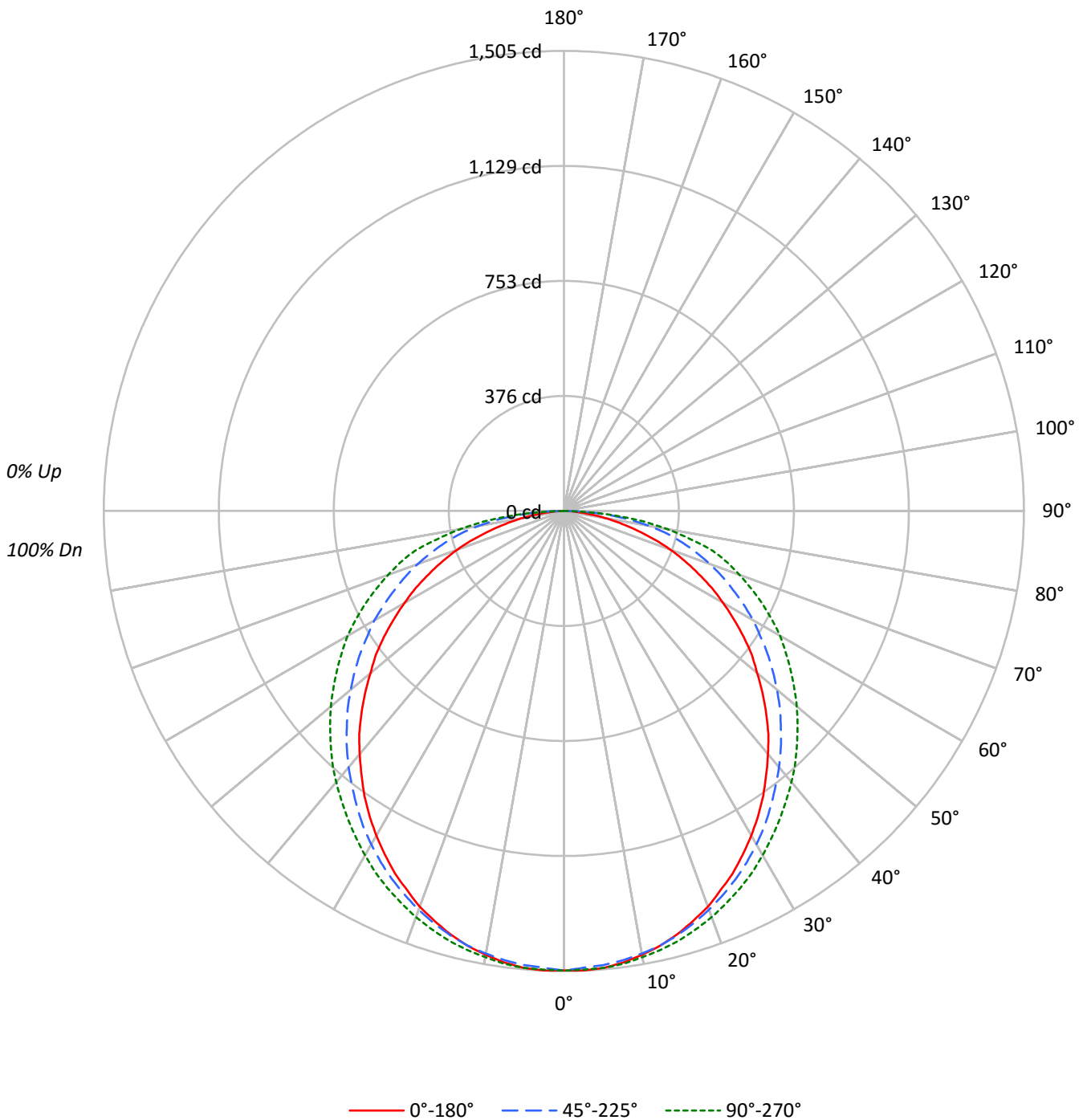
Lumens per Lamp: N/A  
Luminaire Lumens: 4558.0 lumens  
Efficiency: N/A  
Efficacy: 113.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 40.3  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2023	2023	2023
5°	2026	2014	2026
10°	2015	2008	2025
15°	1997	2001	2026
20°	1973	1988	2025
25°	1942	1973	2023
30°	1905	1957	2021
35°	1868	1938	2022
40°	1825	1923	2035
45°	1781	1911	2052
50°	1728	1906	2083
55°	1685	1909	2125
60°	1620	1925	2197
65°	1545	1945	2277
70°	1463	2005	2404
75°	1305	2091	2626
80°	1113	2214	2683
85°	794	2195	2567



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	142.3	3.1
10°-20°	406.8	8.9
20°-30°	614.4	13.5
30°-40°	740.5	16.2
40°-50°	777.4	17.1
50°-60°	727.3	16.0
60°-70°	600.6	13.2
70°-80°	409.3	9.0
80°-90°	139.6	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°	1163.4	25.5
0°-40°	1903.9	41.8
0°-60°	3408.6	74.8
0°-90°	4558.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4558.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1503	1503	1503	1503	1503	
5°	1500	1499	1491	1500	1500	142
15°	1434	1435	1437	1452	1455	404
25°	1308	1314	1329	1355	1362	602
35°	1137	1149	1180	1219	1231	711
45°	936	956	1004	1059	1078	722
55°	718	747	814	880	906	641
65°	485	526	611	688	715	482
75°	251	308	402	478	505	268
85°	51	101	142	160	166	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1503.2	1503.2	1503.2	1503.2	1503.2
2.5°	1504.7	1503.2	1495.6	1503.2	1501.7
5°	1500.2	1498.7	1491.1	1500.2	1500.2
7.5°	1489.6	1489.6	1482.0	1492.6	1494.1
10°	1474.5	1474.5	1469.9	1482.0	1482.0
12.5°	1456.3	1456.3	1456.3	1468.4	1469.9
15°	1433.6	1435.1	1436.6	1451.8	1454.8
17.5°	1406.4	1409.4	1414.0	1432.1	1435.1
20°	1377.7	1380.7	1388.3	1409.4	1414.0
22.5°	1341.4	1348.9	1359.5	1383.7	1388.3
25°	1308.1	1314.2	1329.3	1355.0	1362.5
27.5°	1267.3	1276.3	1296.0	1323.2	1333.8
30°	1226.4	1235.5	1259.7	1291.5	1300.5
32.5°	1182.6	1196.2	1221.9	1255.2	1265.8
35°	1137.2	1149.3	1179.6	1218.9	1231.0
37.5°	1087.3	1104.0	1137.2	1179.6	1194.7
40°	1038.9	1057.1	1094.9	1140.2	1158.4
42.5°	990.5	1008.7	1051.0	1102.4	1120.6
45°	936.1	955.7	1004.1	1058.6	1078.2
47.5°	881.6	905.8	958.8	1016.2	1037.4
50°	825.7	852.9	910.4	970.9	995.1
52.5°	775.8	801.5	862.0	927.0	949.7
55°	718.3	747.1	813.6	880.1	905.8
57.5°	659.3	691.1	762.2	834.8	860.5
60°	601.9	636.7	715.3	787.9	816.6
62.5°	545.9	580.7	662.4	738.0	766.7
65°	485.4	526.3	611.0	688.1	715.3
67.5°	428.0	471.8	561.0	636.7	663.9
70°	372.0	414.4	509.6	583.7	611.0
72.5°	311.5	359.9	455.2	532.3	561.0
75°	251.0	308.5	402.3	477.9	505.1
77.5°	195.1	254.1	347.8	409.8	423.4
80°	143.7	204.2	285.8	329.7	346.3
82.5°	92.2	152.7	217.8	249.5	263.1
85°	51.4	101.3	142.2	160.3	166.3
87.5°	21.2	43.9	57.5	65.0	65.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)