

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: P311558

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP187-W2A-U-5500K**

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: P311558  
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-L82765-S-CP187-W2A-U-5500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 5500K 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**

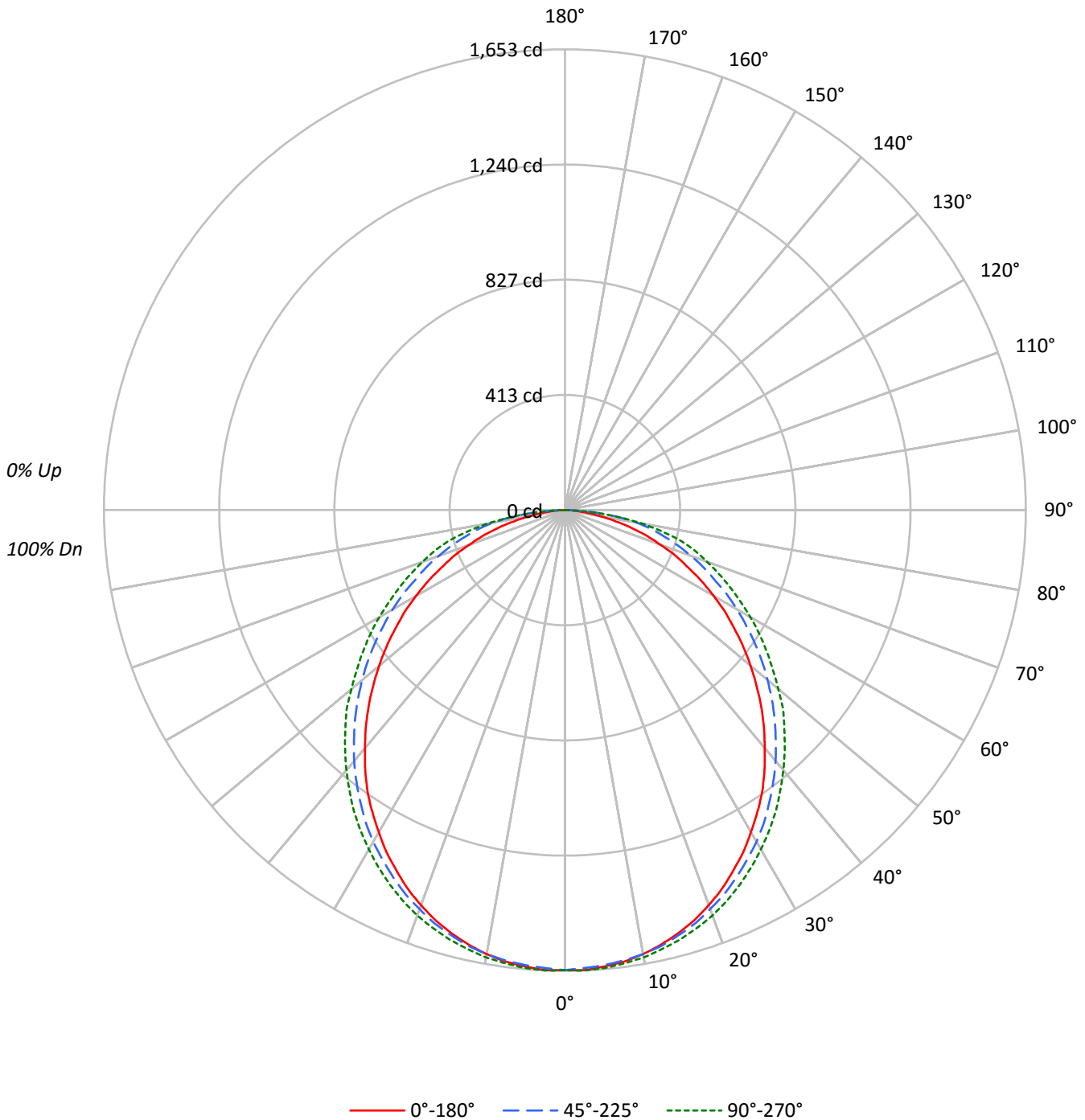
Lumens per Lamp: N/A  
Luminaire Lumens: 4698.0 lumens  
Efficiency: N/A  
Efficacy: 118.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 39.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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



TEST NUMBER: P311558

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-S-CP187-W2A-U-5500K

### Luminous Intensity Polar Plot





TEST NUMBER: P311558

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-S-CP187-W2A-U-5500K

**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°	2221	2221	2221
5°	2219	2213	2227
10°	2210	2210	2226
15°	2189	2199	2222
20°	2160	2182	2216
25°	2120	2160	2202
30°	2073	2135	2184
35°	2027	2101	2167
40°	1958	2065	2141
45°	1894	2025	2118
50°	1821	1987	2093
55°	1740	1950	2072
60°	1658	1919	2068
65°	1554	1886	2081
70°	1438	1896	2137
75°	1288	1932	2257
80°	1041	2046	2208
85°	783	1797	1751



TEST NUMBER: P311558

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-S-CP187-W2A-U-5500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	156.2	3.3
10°-20°	446.5	9.5
20°-30°	671.1	14.3
30°-40°	799.4	17.0
40°-50°	818.2	17.4
50°-60°	736.6	15.7
60°-70°	578.5	12.3
70°-80°	375.4	8.0
80°-90°	116.1	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°	1273.8	27.1
0°-40°	2073.2	44.1
0°-60°	3628.0	77.2
0°-90°	4698.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4698.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1650	1650	1650	1650	1650	
5°	1643	1646	1638	1648	1649	156
15°	1571	1576	1579	1592	1595	443
25°	1428	1440	1455	1479	1483	658
35°	1234	1249	1279	1310	1319	770
45°	995	1019	1064	1104	1113	767
55°	742	774	831	874	883	665
65°	488	525	592	642	654	486
75°	248	296	372	422	434	262
85°	51	94	116	113	113	61
90°	0	0	0	0	0	



TEST NUMBER: P311558

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-S-CP187-W2A-U-5500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1650.4	1650.4	1650.4	1650.4	1650.4
2.5°	1651.9	1651.9	1644.5	1651.9	1653.4
5°	1643.0	1646.0	1638.5	1647.5	1648.9
7.5°	1634.0	1634.0	1629.5	1638.5	1640.0
10°	1617.6	1619.1	1617.6	1628.1	1629.5
12.5°	1596.7	1599.7	1601.2	1611.6	1613.1
15°	1571.3	1575.8	1578.8	1592.2	1595.2
17.5°	1543.0	1547.5	1554.9	1569.9	1572.8
20°	1508.7	1514.6	1523.6	1543.0	1547.5
22.5°	1471.4	1477.3	1492.3	1510.2	1517.6
25°	1428.1	1440.0	1455.0	1478.8	1483.3
27.5°	1384.8	1395.3	1414.7	1440.0	1446.0
30°	1334.1	1350.5	1374.4	1399.7	1405.7
32.5°	1284.8	1301.2	1329.6	1356.5	1363.9
35°	1234.1	1249.0	1278.9	1310.2	1319.2
37.5°	1175.9	1195.3	1228.1	1259.5	1268.4
40°	1114.7	1138.6	1175.9	1208.7	1219.2
42.5°	1056.5	1081.9	1119.2	1155.0	1166.9
45°	995.3	1019.2	1064.0	1104.3	1113.2
47.5°	932.7	959.5	1007.3	1047.6	1062.5
50°	870.0	898.3	949.1	990.9	999.8
52.5°	807.3	837.2	890.9	935.6	940.1
55°	741.7	774.5	831.2	874.5	883.4
57.5°	682.0	710.3	771.5	816.3	826.7
60°	616.3	647.6	713.3	755.1	768.5
62.5°	553.6	586.5	655.1	696.9	708.8
65°	488.0	525.3	592.4	641.7	653.6
67.5°	431.3	467.1	538.7	586.5	598.4
70°	365.6	405.9	482.0	531.2	543.2
72.5°	308.9	350.7	426.8	474.5	492.4
75°	247.7	295.5	371.6	422.3	434.2
77.5°	188.0	243.2	320.8	359.6	359.6
80°	134.3	192.5	264.1	282.0	285.0
82.5°	88.0	144.7	195.5	194.0	194.0
85°	50.7	94.0	116.4	113.4	113.4
87.5°	19.4	38.8	41.8	41.8	40.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)