

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: P314380

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-S-CP187-W2A-U-3000K**

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: P314380  
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-L83050-S-CP187-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 3000K 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**

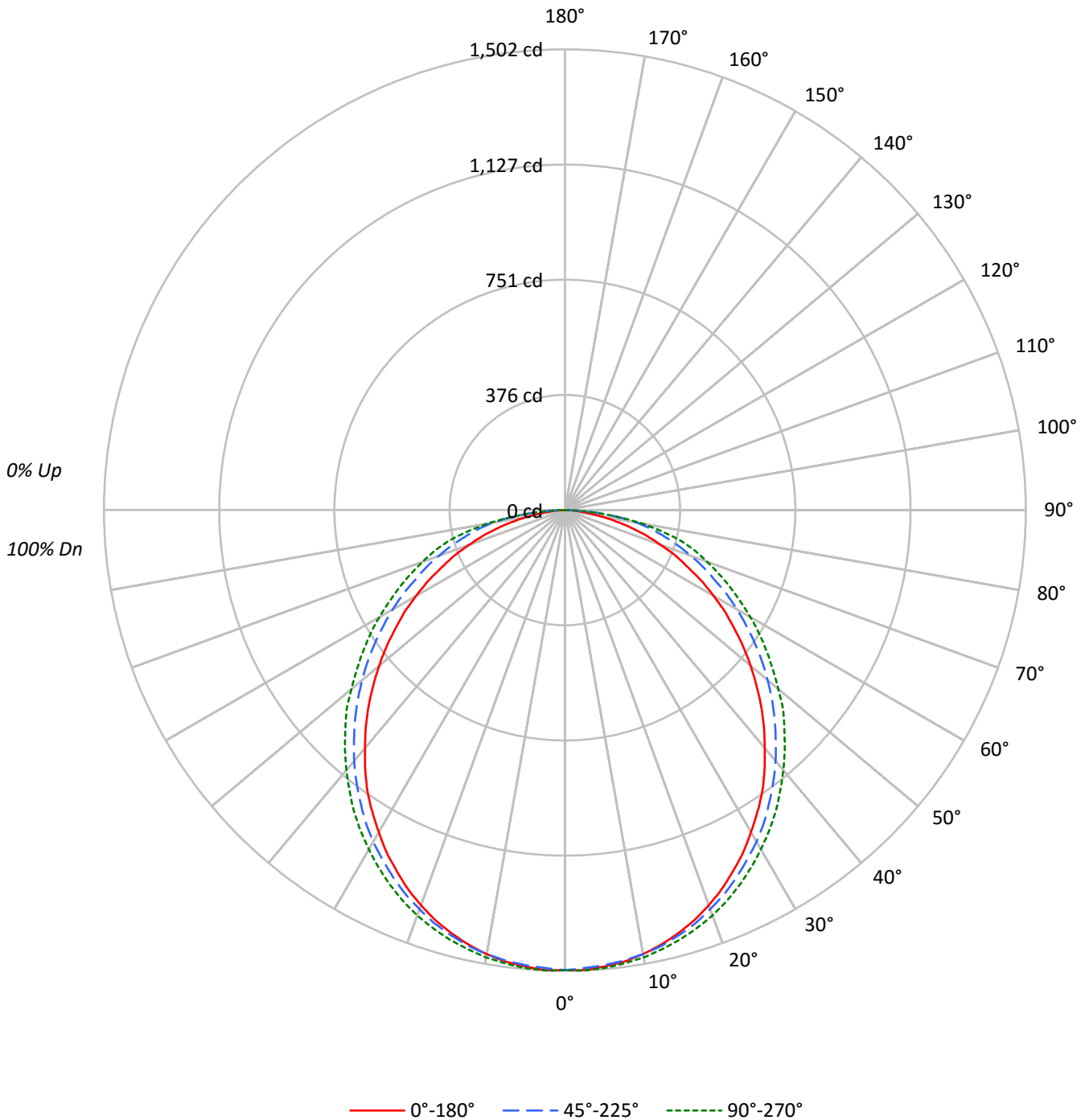
Lumens per Lamp: N/A  
Luminaire Lumens: 4269.0 lumens  
Efficiency: N/A  
Efficacy: 111.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 38.3  
Input Voltage (V): NR  
Input Current (A<sub>in</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



TEST NUMBER: P314380

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-S-CP187-W2A-U-3000K

### Luminous Intensity Polar Plot





TEST NUMBER: P314380

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-S-CP187-W2A-U-3000K

**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°	2018	2018	2018
5°	2016	2011	2024
10°	2008	2008	2023
15°	1989	1998	2019
20°	1963	1982	2013
25°	1927	1963	2001
30°	1883	1940	1984
35°	1842	1909	1969
40°	1779	1877	1946
45°	1721	1840	1925
50°	1655	1805	1902
55°	1581	1772	1883
60°	1507	1744	1879
65°	1412	1714	1891
70°	1307	1723	1942
75°	1170	1755	2051
80°	945	1860	2007
85°	712	1633	1592



TEST NUMBER: P314380

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-S-CP187-W2A-U-3000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	142.0	3.3
10°-20°	405.7	9.5
20°-30°	609.8	14.3
30°-40°	726.4	17.0
40°-50°	743.4	17.4
50°-60°	669.3	15.7
60°-70°	525.6	12.3
70°-80°	341.1	8.0
80°-90°	105.5	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°	1157.5	27.1
0°-40°	1883.9	44.1
0°-60°	3296.7	77.2
0°-90°	4269.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4269.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1500	1500	1500	1500	1500	
5°	1493	1496	1489	1497	1498	142
15°	1428	1432	1435	1447	1450	403
25°	1298	1308	1322	1344	1348	598
35°	1121	1135	1162	1191	1199	700
45°	904	926	967	1003	1012	697
55°	674	704	755	795	803	604
65°	443	477	538	583	594	441
75°	225	268	338	384	395	238
85°	46	85	106	103	103	56
90°	0	0	0	0	0	



TEST NUMBER: P314380

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-S-CP187-W2A-U-3000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1499.7	1499.7	1499.7	1499.7	1499.7
2.5°	1501.1	1501.1	1494.3	1501.1	1502.4
5°	1492.9	1495.7	1488.9	1497.0	1498.4
7.5°	1484.8	1484.8	1480.7	1488.9	1490.2
10°	1469.9	1471.3	1469.9	1479.4	1480.7
12.5°	1450.9	1453.6	1455.0	1464.5	1465.8
15°	1427.9	1431.9	1434.6	1446.8	1449.6
17.5°	1402.1	1406.2	1412.9	1426.5	1429.2
20°	1370.9	1376.3	1384.5	1402.1	1406.2
22.5°	1337.0	1342.4	1356.0	1372.3	1379.0
25°	1297.7	1308.5	1322.1	1343.8	1347.9
27.5°	1258.4	1267.9	1285.5	1308.5	1314.0
30°	1212.3	1227.2	1248.9	1271.9	1277.3
32.5°	1167.5	1182.4	1208.2	1232.6	1239.4
35°	1121.4	1135.0	1162.1	1190.6	1198.7
37.5°	1068.5	1086.1	1116.0	1144.5	1152.6
40°	1012.9	1034.6	1068.5	1098.4	1107.8
42.5°	960.0	983.1	1017.0	1049.5	1060.4
45°	904.4	926.1	966.8	1003.4	1011.6
47.5°	847.5	871.9	915.3	951.9	965.5
50°	790.5	816.3	862.4	900.4	908.5
52.5°	733.6	760.7	809.5	850.2	854.3
55°	673.9	703.8	755.3	794.6	802.7
57.5°	619.7	645.5	701.0	741.7	751.2
60°	560.0	588.5	648.2	686.1	698.3
62.5°	503.1	532.9	595.3	633.2	644.1
65°	443.4	477.3	538.3	583.1	593.9
67.5°	391.9	424.4	489.5	532.9	543.8
70°	332.2	368.8	438.0	482.7	493.6
72.5°	280.7	318.7	387.8	431.2	447.5
75°	225.1	268.5	337.6	383.7	394.6
77.5°	170.9	221.0	291.5	326.8	326.8
80°	122.0	174.9	240.0	256.3	259.0
82.5°	80.0	131.5	177.6	176.3	176.3
85°	46.1	85.4	105.8	103.1	103.1
87.5°	17.6	35.3	38.0	38.0	36.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)