

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: P314038

Luminaire Tested: **24FCZ2-50-UNV-L83050-CP250-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: P314038  
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-4500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET  
Light Source: (168) 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**

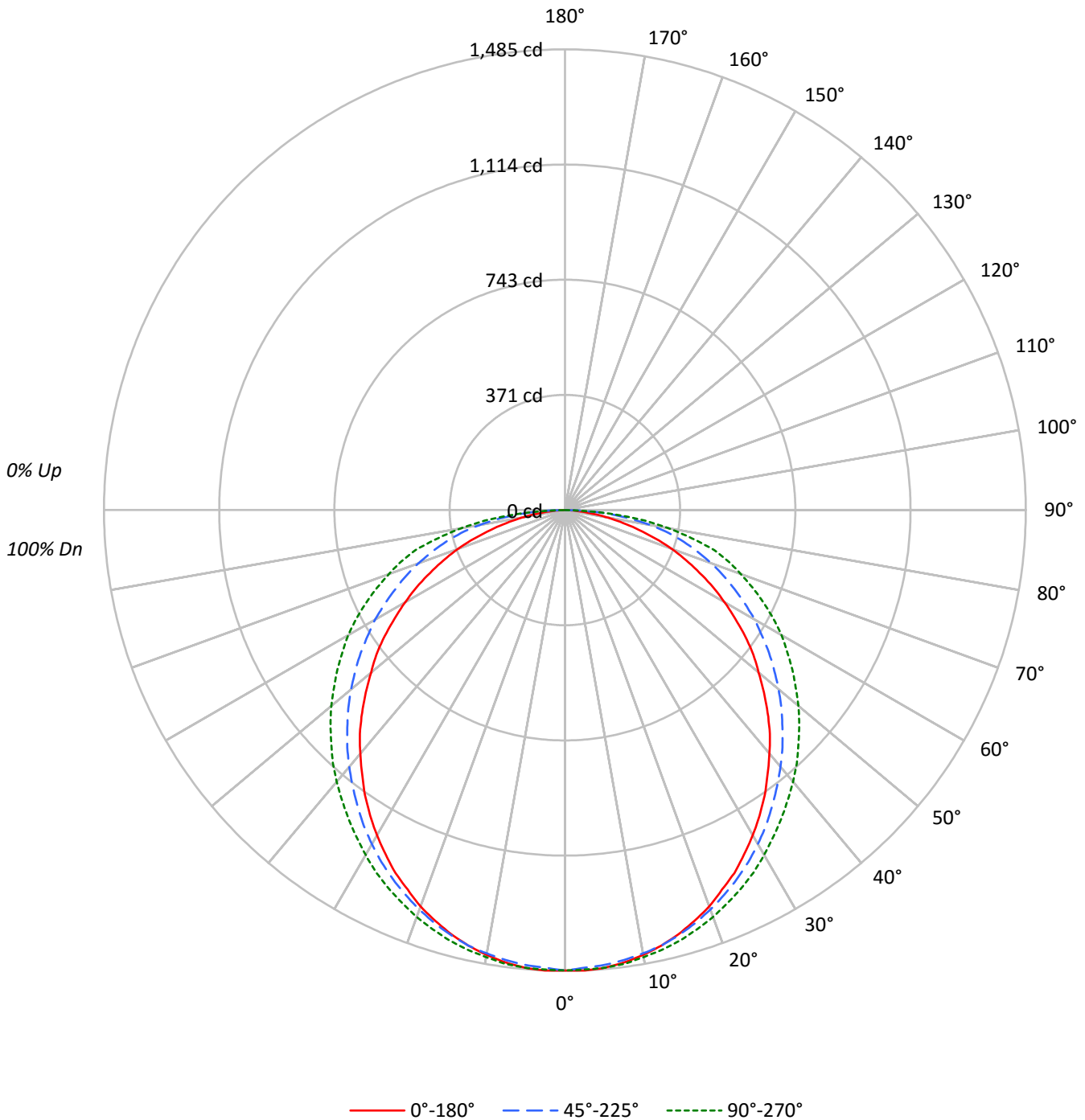
Lumens per Lamp: N/A  
Luminaire Lumens: 4499.0 lumens  
Efficiency: N/A  
Efficacy: 100.4 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 44.8  
Input Voltage (V): NR  
Input Current (A<sub>in</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: P314038

CATALOG NUMBER: 24FCZ2-50-UNV-L83050-CP250-W2A-U-4500K

### Luminous Intensity Polar Plot





TEST NUMBER: P314038

CATALOG NUMBER: 24FCZ2-50-UNV-L83050-CP250-W2A-U-4500K

**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°	1996	1996	1996
5°	2000	1988	2000
10°	1988	1982	1999
15°	1971	1975	2000
20°	1947	1962	1998
25°	1917	1948	1997
30°	1881	1932	1994
35°	1844	1912	1996
40°	1801	1898	2008
45°	1758	1886	2025
50°	1706	1881	2056
55°	1663	1884	2097
60°	1599	1900	2169
65°	1526	1920	2248
70°	1445	1979	2372
75°	1288	2064	2592
80°	1099	2186	2648
85°	784	2166	2535



TEST NUMBER: P314038

CATALOG NUMBER: 24FCZ2-50-UNV-L83050-CP250-W2A-U-4500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.4	3.1
10°-20°	401.5	8.9
20°-30°	606.4	13.5
30°-40°	730.9	16.2
40°-50°	767.3	17.1
50°-60°	717.9	16.0
60°-70°	592.8	13.2
70°-80°	404.0	9.0
80°-90°	137.8	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°	1148.4	25.5
0°-40°	1879.3	41.8
0°-60°	3364.4	74.8
0°-90°	4499.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4499.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1484	1484	1484	1484	1484	
5°	1481	1479	1472	1481	1481	141
15°	1415	1417	1418	1433	1436	399
25°	1291	1297	1312	1337	1345	594
35°	1122	1134	1164	1203	1215	701
45°	924	943	991	1045	1064	713
55°	709	737	803	869	894	633
65°	479	520	603	679	706	475
75°	248	304	397	472	499	264
85°	51	100	140	158	164	64
90°	0	0	0	0	0	



TEST NUMBER: P314038

CATALOG NUMBER: 24FCZ2-50-UNV-L83050-CP250-W2A-U-4500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1483.7	1483.7	1483.7	1483.7	1483.7
2.5°	1485.2	1483.7	1476.3	1483.7	1482.2
5°	1480.7	1479.3	1471.8	1480.7	1480.7
7.5°	1470.3	1470.3	1462.8	1473.3	1474.8
10°	1455.4	1455.4	1450.9	1462.8	1462.8
12.5°	1437.5	1437.5	1437.5	1449.4	1450.9
15°	1415.1	1416.6	1418.1	1433.0	1436.0
17.5°	1388.2	1391.2	1395.7	1413.6	1416.6
20°	1359.8	1362.8	1370.3	1391.2	1395.7
22.5°	1324.0	1331.5	1341.9	1365.8	1370.3
25°	1291.2	1297.1	1312.1	1337.4	1344.9
27.5°	1250.9	1259.8	1279.2	1306.1	1316.6
30°	1210.6	1219.5	1243.4	1274.8	1283.7
32.5°	1167.3	1180.7	1206.1	1238.9	1249.4
35°	1122.5	1134.4	1164.3	1203.1	1215.0
37.5°	1073.2	1089.7	1122.5	1164.3	1179.2
40°	1025.5	1043.4	1080.7	1125.5	1143.4
42.5°	977.7	995.6	1037.4	1088.2	1106.1
45°	924.0	943.4	991.1	1044.9	1064.3
47.5°	870.2	894.1	946.4	1003.1	1024.0
50°	815.0	841.9	898.6	958.3	982.2
52.5°	765.7	791.1	850.8	915.0	937.4
55°	709.0	737.4	803.1	868.7	894.1
57.5°	650.8	682.2	752.3	824.0	849.3
60°	594.1	628.4	706.0	777.7	806.1
62.5°	538.9	573.2	653.8	728.4	756.8
65°	479.2	519.5	603.0	679.2	706.0
67.5°	422.4	465.7	553.8	628.4	655.3
70°	367.2	409.0	503.0	576.2	603.0
72.5°	307.5	355.3	449.3	525.4	553.8
75°	247.8	304.5	397.1	471.7	498.6
77.5°	192.6	250.8	343.3	404.5	418.0
80°	141.8	201.5	282.1	325.4	341.8
82.5°	91.1	150.8	214.9	246.3	259.7
85°	50.8	100.0	140.3	158.2	164.2
87.5°	20.9	43.3	56.7	64.2	64.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)