

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: P314460

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-S-CP250-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: P314460  
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: 24FCZ2-60HE-UNV-L83050-S-CP250-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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**

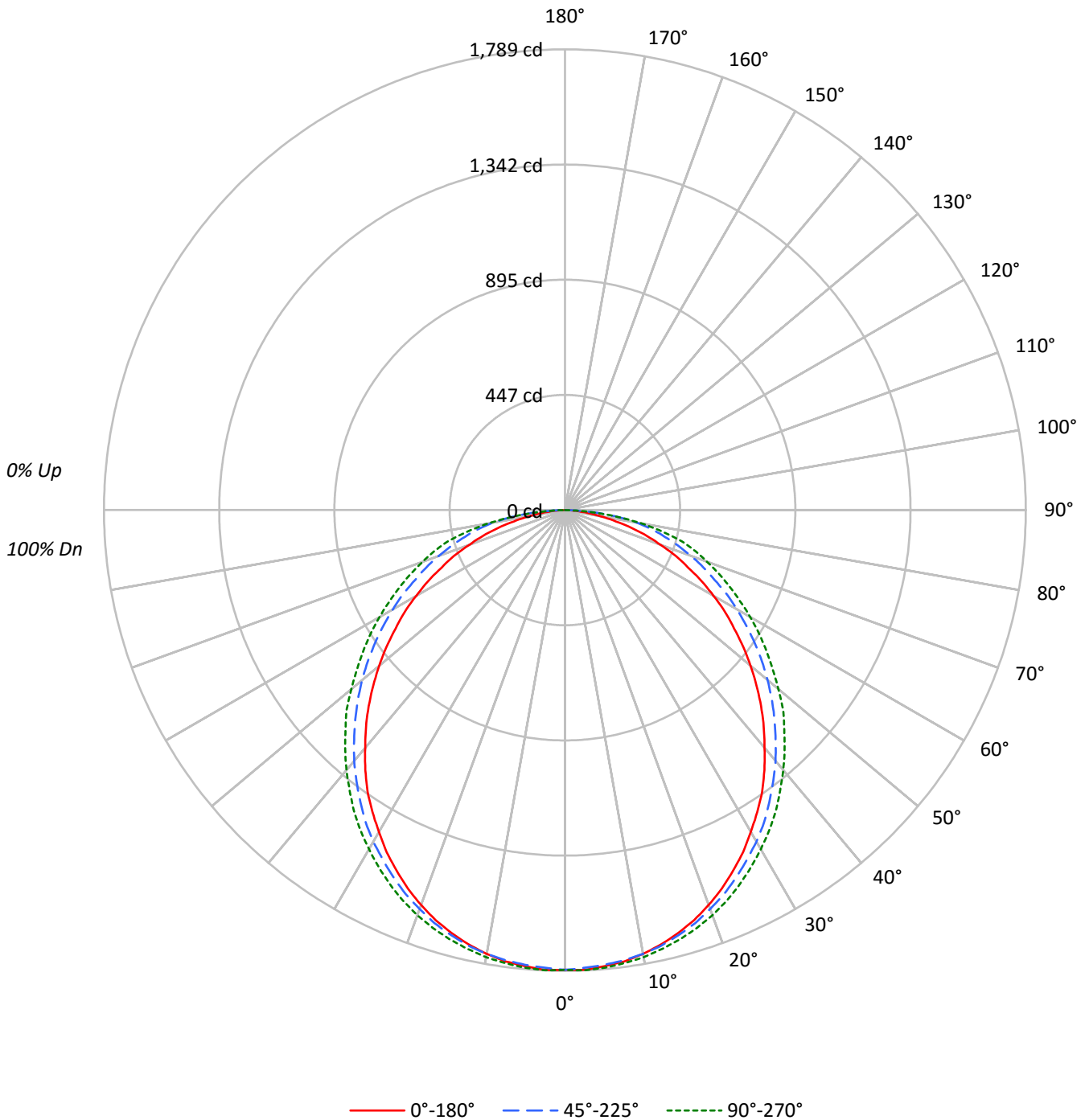
Lumens per Lamp: N/A  
Luminaire Lumens: 5082.0 lumens  
Efficiency: N/A  
Efficacy: 107.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 47.5  
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: P314460  
CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-S-CP250-W2A-U-3000K

### Luminous Intensity Polar Plot





TEST NUMBER: P314460

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-S-CP250-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°	2402	2402	2402
5°	2400	2394	2409
10°	2391	2391	2408
15°	2368	2379	2404
20°	2337	2360	2397
25°	2293	2337	2382
30°	2242	2310	2362
35°	2193	2272	2344
40°	2118	2234	2316
45°	2049	2190	2291
50°	1970	2149	2264
55°	1882	2109	2242
60°	1794	2076	2237
65°	1681	2040	2251
70°	1556	2051	2312
75°	1393	2089	2442
80°	1126	2214	2389
85°	848	1944	1894



TEST NUMBER: P314460

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-S-CP250-W2A-U-3000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	169.0	3.3
10°-20°	483.0	9.5
20°-30°	726.0	14.3
30°-40°	864.8	17.0
40°-50°	885.0	17.4
50°-60°	796.8	15.7
60°-70°	625.7	12.3
70°-80°	406.1	8.0
80°-90°	125.6	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°	1377.9	27.1
0°-40°	2242.7	44.1
0°-60°	3924.5	77.2
0°-90°	5082.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5082.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1785	1785	1785	1785	1785	
5°	1777	1780	1772	1782	1784	169
15°	1700	1705	1708	1722	1726	479
25°	1545	1558	1574	1600	1604	712
35°	1335	1351	1383	1417	1427	833
45°	1077	1102	1151	1194	1204	830
55°	802	838	899	946	956	719
65°	528	568	641	694	707	525
75°	268	320	402	457	470	284
85°	55	102	126	123	123	66
90°	0	0	0	0	0	



TEST NUMBER: P314460

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-S-CP250-W2A-U-3000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1785.3	1785.3	1785.3	1785.3	1785.3
2.5°	1787.0	1787.0	1778.9	1787.0	1788.6
5°	1777.3	1780.5	1772.4	1782.1	1783.7
7.5°	1767.6	1767.6	1762.7	1772.4	1774.0
10°	1749.8	1751.4	1749.8	1761.1	1762.7
12.5°	1727.2	1730.5	1732.1	1743.4	1745.0
15°	1699.8	1704.6	1707.9	1722.4	1725.6
17.5°	1669.1	1674.0	1682.0	1698.2	1701.4
20°	1632.0	1638.4	1648.1	1669.1	1674.0
22.5°	1591.6	1598.1	1614.2	1633.6	1641.7
25°	1544.8	1557.7	1573.9	1599.7	1604.5
27.5°	1498.0	1509.3	1530.3	1557.7	1564.2
30°	1443.1	1460.9	1486.7	1514.1	1520.6
32.5°	1389.9	1407.6	1438.3	1467.3	1475.4
35°	1335.0	1351.1	1383.4	1417.3	1427.0
37.5°	1272.0	1293.0	1328.5	1362.4	1372.1
40°	1205.8	1231.7	1272.0	1307.5	1318.8
42.5°	1142.9	1170.3	1210.7	1249.4	1262.3
45°	1076.7	1102.5	1150.9	1194.5	1204.2
47.5°	1008.9	1038.0	1089.6	1133.2	1149.3
50°	941.1	971.8	1026.7	1071.8	1081.5
52.5°	873.3	905.6	963.7	1012.1	1017.0
55°	802.3	837.8	899.1	945.9	955.6
57.5°	737.7	768.4	834.6	883.0	894.3
60°	666.7	700.6	771.6	816.8	831.3
62.5°	598.9	634.4	708.6	753.8	766.8
65°	527.9	568.2	640.8	694.1	707.0
67.5°	466.5	505.3	582.7	634.4	647.3
70°	395.5	439.1	521.4	574.7	587.6
72.5°	334.1	379.3	461.7	513.3	532.7
75°	268.0	319.6	401.9	456.8	469.7
77.5°	203.4	263.1	347.1	389.0	389.0
80°	145.3	208.2	285.7	305.1	308.3
82.5°	95.2	156.6	211.5	209.9	209.9
85°	54.9	101.7	125.9	122.7	122.7
87.5°	21.0	42.0	45.2	45.2	43.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)