

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: P313691

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-RDP-CA08-W2A-U-3500K**

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: P313691  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
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-RDP-CA08-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET  
Light Source: (336) 3500K 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**

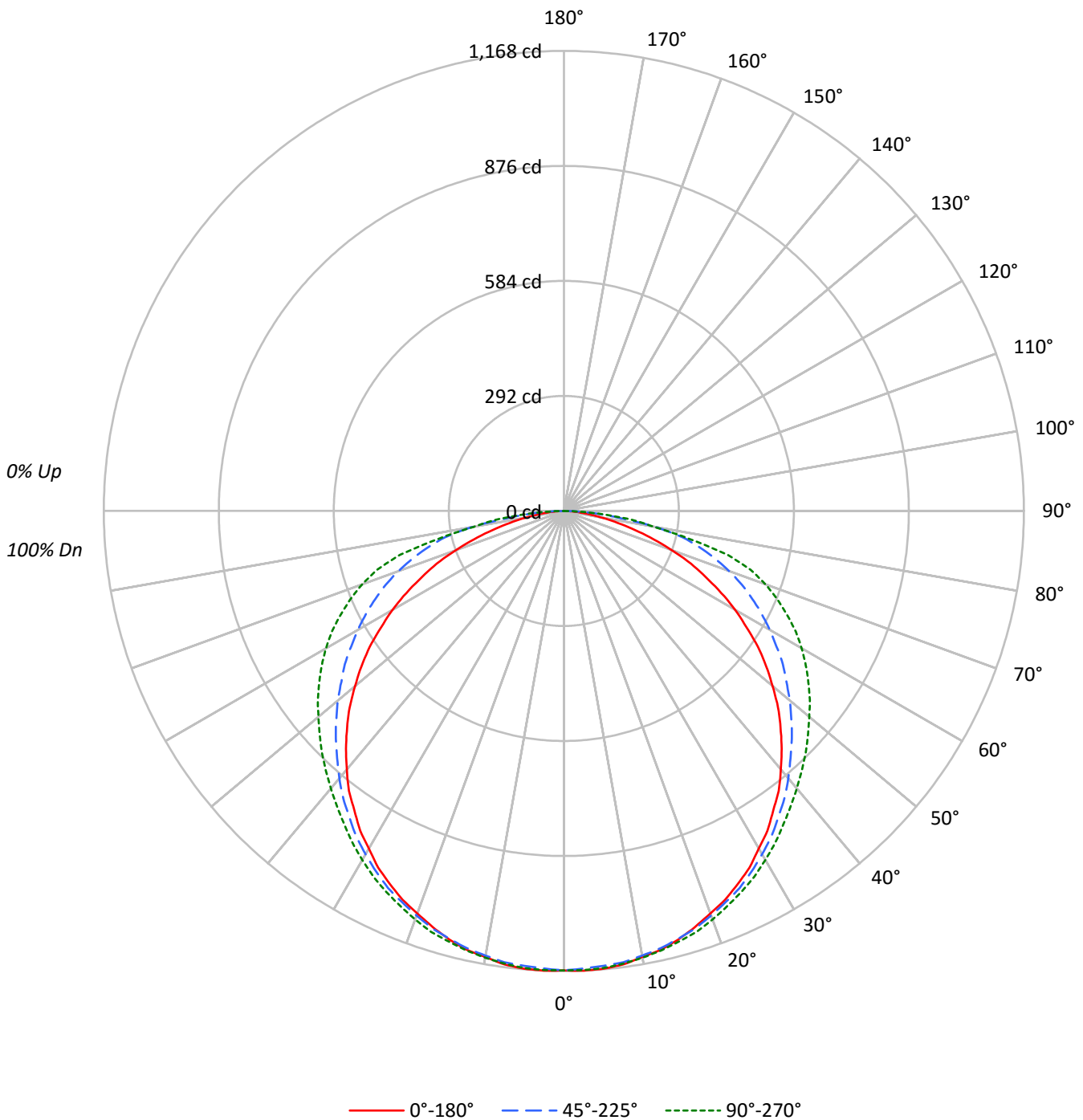
Lumens per Lamp: N/A  
Luminaire Lumens: 3709.0 lumens  
Efficiency: N/A  
Efficacy: 77.9 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: P313691

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-RDP-CA08-W2A-U-3500K

### Luminous Intensity Polar Plot





TEST NUMBER: P313691

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-RDP-CA08-W2A-U-3500K

**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	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1569	1569	1569
5°	1575	1565	1573
10°	1571	1566	1574
15°	1568	1566	1576
20°	1557	1565	1580
25°	1551	1568	1584
30°	1538	1563	1589
35°	1523	1559	1596
40°	1506	1557	1616
45°	1481	1558	1652
50°	1448	1567	1702
55°	1411	1593	1778
60°	1351	1624	1876
65°	1265	1681	1991
70°	1151	1758	2142
75°	976	1855	2238
80°	769	1867	1810
85°	568	1420	1590



TEST NUMBER: P313691

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-RDP-CA08-W2A-U-3500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.6	3.0
10°-20°	318.4	8.6
20°-30°	486.9	13.1
30°-40°	595.3	16.0
40°-50°	634.4	17.1
50°-60°	606.6	16.4
60°-70°	513.9	13.9
70°-80°	345.4	9.3
80°-90°	97.4	2.6
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°	916.0	24.7
0°-40°	1511.3	40.7
0°-60°	2752.4	74.2
0°-90°	3709.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3709.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1166	1166	1166	1166	1166	
5°	1166	1164	1159	1164	1164	111
15°	1126	1126	1124	1133	1131	317
25°	1045	1049	1056	1065	1067	482
35°	927	935	949	968	971	581
45°	778	791	819	854	868	600
55°	602	624	679	732	758	536
65°	397	438	528	598	626	394
75°	188	256	357	418	430	201
85°	37	75	92	99	103	46
90°	0	0	0	0	0	



TEST NUMBER: P313691

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-RDP-CA08-W2A-U-3500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1166.4	1166.4	1166.4	1166.4	1166.4
2.5°	1168.2	1168.2	1162.7	1166.4	1166.4
5°	1166.4	1164.5	1159.0	1164.5	1164.5
7.5°	1160.9	1159.0	1155.3	1160.9	1159.0
10°	1149.8	1149.8	1146.1	1151.7	1151.7
12.5°	1140.6	1138.8	1136.9	1144.3	1142.5
15°	1125.9	1125.9	1124.1	1133.3	1131.4
17.5°	1107.5	1109.3	1111.2	1118.5	1120.4
20°	1087.3	1090.9	1092.8	1103.8	1103.8
22.5°	1068.9	1070.7	1074.4	1085.4	1085.4
25°	1045.0	1048.6	1056.0	1065.2	1067.0
27.5°	1021.0	1022.9	1032.1	1045.0	1046.8
30°	989.8	995.3	1006.3	1021.0	1022.9
32.5°	962.2	967.7	980.6	995.3	999.0
35°	927.2	934.6	949.3	967.7	971.4
37.5°	895.9	901.5	919.9	940.1	945.6
40°	857.3	868.3	886.7	910.7	919.9
42.5°	818.7	829.7	851.8	883.1	894.1
45°	778.2	791.1	818.7	853.6	868.3
47.5°	737.7	752.4	783.7	824.2	840.7
50°	691.7	710.1	748.8	794.8	813.2
52.5°	647.6	669.7	712.0	763.5	787.4
55°	601.6	623.7	678.9	732.2	758.0
57.5°	550.1	579.5	640.2	700.9	728.5
60°	502.2	529.8	603.4	669.7	697.2
62.5°	450.7	487.5	566.6	636.5	664.1
65°	397.4	437.9	528.0	597.9	625.5
67.5°	349.5	393.7	489.4	559.3	586.9
70°	292.5	347.7	447.0	517.0	544.6
72.5°	239.2	299.9	402.9	471.0	496.7
75°	187.7	255.7	356.9	417.6	430.5
77.5°	139.8	211.6	309.1	334.8	325.6
80°	99.3	169.3	241.0	228.1	233.6
82.5°	64.4	128.8	149.0	169.3	174.8
85°	36.8	75.4	92.0	99.3	103.0
87.5°	16.6	27.6	36.8	36.8	35.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)