

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: P313116

Luminaire Tested: **24FCZ2-35-UNV-L83050-HRP-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: P313116  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-35-UNV-L83050-HRP-CA08-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 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**

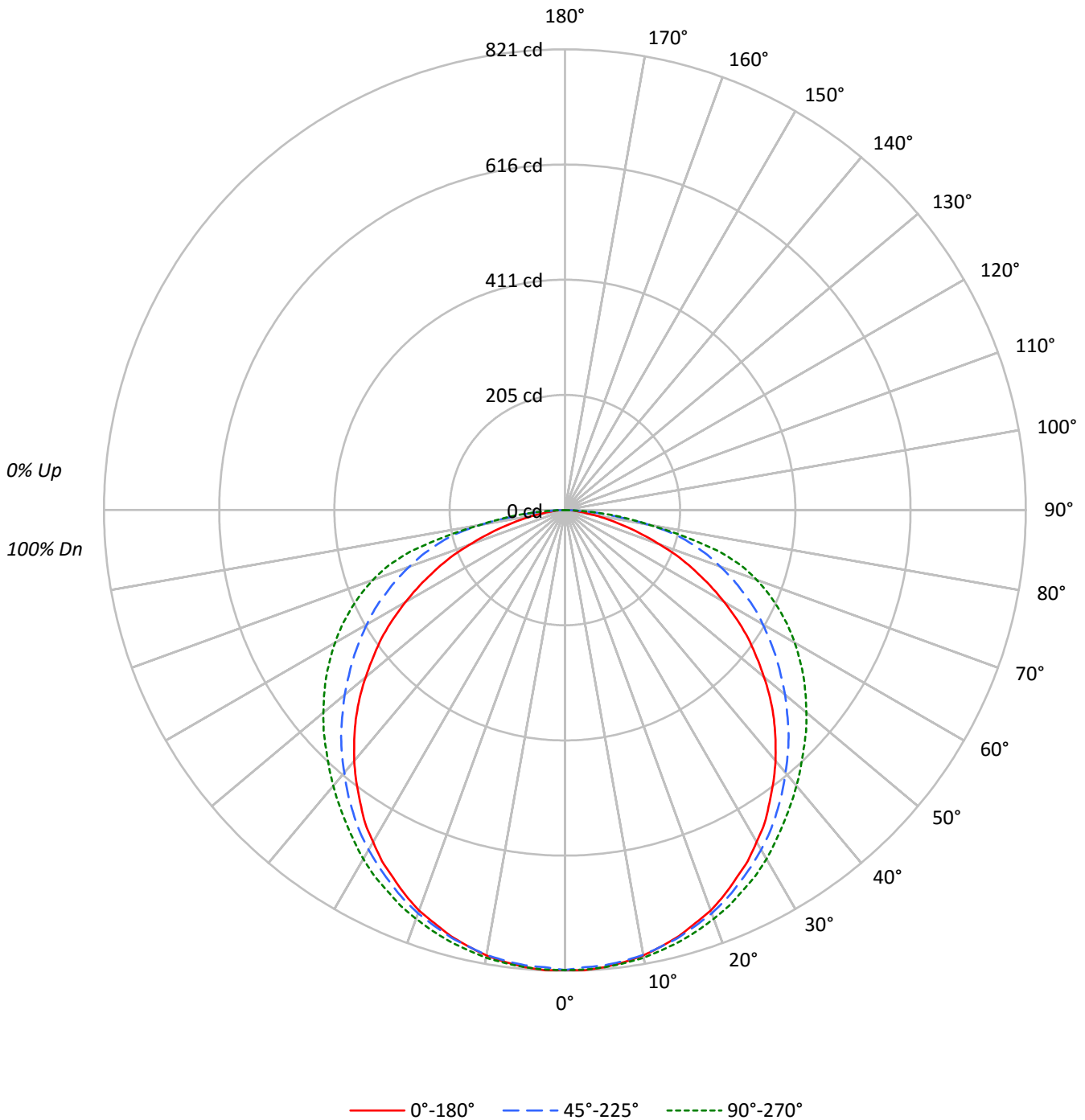
Lumens per Lamp: N/A  
Luminaire Lumens: 2526.0 lumens  
Efficiency: N/A  
Efficacy: 90.2 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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: P313116

CATALOG NUMBER: 24FCZ2-35-UNV-L83050-HRP-CA08-W2A-U-3500K

### Luminous Intensity Polar Plot





TEST NUMBER: P313116

CATALOG NUMBER: 24FCZ2-35-UNV-L83050-HRP-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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

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

	0°	45°	90°
0°	1103	1103	1103
5°	1104	1100	1104
10°	1101	1100	1107
15°	1094	1097	1108
20°	1087	1095	1110
25°	1074	1090	1112
30°	1061	1086	1116
35°	1044	1080	1117
40°	1025	1074	1127
45°	1002	1072	1145
50°	970	1071	1175
55°	935	1079	1218
60°	882	1095	1272
65°	815	1121	1343
70°	711	1161	1431
75°	577	1221	1479
80°	426	1196	1196
85°	327	881	996



TEST NUMBER: P313116

CATALOG NUMBER: 24FCZ2-35-UNV-L83050-HRP-CA08-W2A-U-3500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.6	3.1
10°-20°	222.9	8.8
20°-30°	339.4	13.4
30°-40°	412.1	16.3
40°-50°	435.4	17.2
50°-60°	410.9	16.3
60°-70°	341.6	13.5
70°-80°	224.7	8.9
80°-90°	61.3	2.4
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°	640.0	25.3
0°-40°	1052.1	41.7
0°-60°	1898.4	75.2
0°-90°	2526.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2526.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	820	820	820	820	820	
5°	817	817	814	817	817	78
15°	786	787	788	795	795	222
25°	723	728	734	747	749	334
35°	636	643	658	675	680	398
45°	527	537	564	591	602	406
55°	399	416	460	503	519	355
65°	256	286	352	404	422	253
75°	111	162	235	278	284	120
85°	21	46	57	64	64	26
90°	0	0	0	0	0	



TEST NUMBER: P313116

CATALOG NUMBER: 24FCZ2-35-UNV-L83050-HRP-CA08-W2A-U-3500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	819.6	819.6	819.6	819.6	819.6
2.5°	820.6	819.6	815.3	819.6	819.6
5°	817.4	817.4	814.3	817.4	817.4
7.5°	812.2	812.2	810.0	814.3	814.3
10°	805.8	805.8	804.8	810.0	810.0
12.5°	796.3	797.4	796.3	802.6	802.6
15°	785.7	786.8	787.8	795.2	795.2
17.5°	772.0	774.1	776.2	784.7	785.7
20°	759.3	760.3	764.6	774.1	775.1
22.5°	742.4	745.5	750.8	760.3	763.5
25°	723.3	727.6	733.9	746.6	748.7
27.5°	705.4	708.5	717.0	730.7	735.0
30°	683.1	688.4	699.0	712.8	718.0
32.5°	662.0	667.3	680.0	694.8	699.0
35°	635.6	643.0	657.8	674.7	680.0
37.5°	610.2	617.6	635.6	654.6	660.9
40°	583.7	592.2	611.2	633.4	641.9
42.5°	555.2	566.8	588.0	612.3	621.8
45°	526.6	537.2	563.6	591.1	601.7
47.5°	496.0	508.7	537.2	570.0	582.7
50°	463.2	479.0	511.8	547.8	561.5
52.5°	430.4	448.4	485.4	525.6	540.4
55°	398.7	415.6	460.0	503.4	519.2
57.5°	363.8	384.9	433.6	480.1	496.0
60°	327.8	351.1	407.1	455.8	472.7
62.5°	291.9	318.3	381.8	430.4	448.4
65°	255.9	285.5	352.1	404.0	421.9
67.5°	221.0	253.8	324.7	376.5	394.4
70°	180.8	222.1	295.0	345.8	363.8
72.5°	143.8	191.4	266.5	314.1	329.9
75°	111.0	161.8	234.8	278.1	284.5
77.5°	81.4	132.2	202.0	216.8	217.8
80°	55.0	105.8	154.4	152.3	154.4
82.5°	36.0	79.3	97.3	108.9	110.0
85°	21.2	46.5	57.1	63.5	64.5
87.5°	10.6	15.9	20.1	21.2	23.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)