

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: P313911

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-CP250-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: P313911  
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: 24FCZ2-40HE-UNV-L83050-CP250-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB 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**

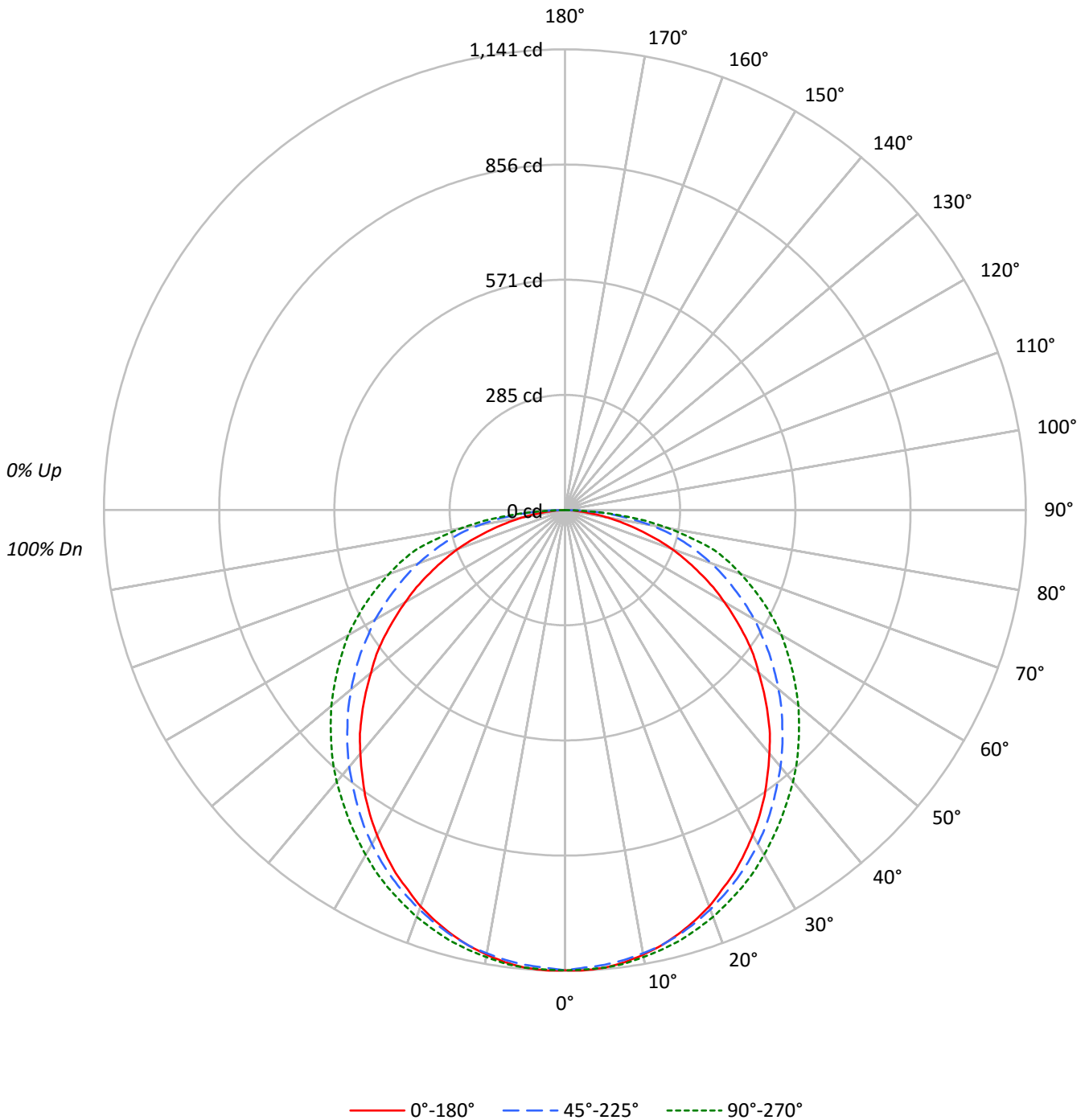
Lumens per Lamp: N/A  
Luminaire Lumens: 3456.0 lumens  
Efficiency: N/A  
Efficacy: 113.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.4  
Input Voltage (V): NR  
Input Current (A<sub>in</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: P313911

CATALOG NUMBER: 24FCZ2-40HE-UNV-L83050-CP250-W2A-U-3500K

### Luminous Intensity Polar Plot





TEST NUMBER: P313911

CATALOG NUMBER: 24FCZ2-40HE-UNV-L83050-CP250-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	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					100			
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82					82			
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67					67			
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56					56			
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47					47			
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41					41			
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36					36			
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31					31			
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28					28			
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25					25			
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23					23			

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

	0°	45°	90°
0°	1534	1534	1534
5°	1536	1527	1536
10°	1527	1523	1535
15°	1514	1517	1537
20°	1496	1507	1535
25°	1472	1496	1534
30°	1445	1484	1532
35°	1416	1469	1533
40°	1384	1458	1543
45°	1351	1449	1556
50°	1311	1445	1579
55°	1278	1447	1611
60°	1228	1460	1666
65°	1172	1475	1727
70°	1110	1520	1822
75°	989	1586	1991
80°	844	1679	2035
85°	602	1664	1947



TEST NUMBER: P313911

CATALOG NUMBER: 24FCZ2-40HE-UNV-L83050-CP250-W2A-U-3500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.9	3.1
10°-20°	308.4	8.9
20°-30°	465.8	13.5
30°-40°	561.5	16.2
40°-50°	589.4	17.1
50°-60°	551.4	16.0
60°-70°	455.4	13.2
70°-80°	310.3	9.0
80°-90°	105.8	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°	882.1	25.5
0°-40°	1443.6	41.8
0°-60°	2584.5	74.8
0°-90°	3456.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3456.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1140	1140	1140	1140	1140	
5°	1138	1136	1131	1138	1138	108
15°	1087	1088	1089	1101	1103	306
25°	992	996	1008	1027	1033	456
35°	862	871	894	924	933	539
45°	710	725	761	803	818	547
55°	545	566	617	667	687	486
65°	368	399	463	522	542	365
75°	190	234	305	362	383	203
85°	39	77	108	122	126	49
90°	0	0	0	0	0	



TEST NUMBER: P313911

CATALOG NUMBER: 24FCZ2-40HE-UNV-L83050-CP250-W2A-U-3500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1139.8	1139.8	1139.8	1139.8	1139.8
2.5°	1140.9	1139.8	1134.0	1139.8	1138.6
5°	1137.5	1136.3	1130.6	1137.5	1137.5
7.5°	1129.4	1129.4	1123.7	1131.7	1132.9
10°	1118.0	1118.0	1114.5	1123.7	1123.7
12.5°	1104.2	1104.2	1104.2	1113.4	1114.5
15°	1087.0	1088.2	1089.3	1100.8	1103.1
17.5°	1066.4	1068.7	1072.1	1085.9	1088.2
20°	1044.6	1046.9	1052.6	1068.7	1072.1
22.5°	1017.1	1022.8	1030.8	1049.2	1052.6
25°	991.8	996.4	1007.9	1027.4	1033.1
27.5°	960.9	967.8	982.7	1003.3	1011.3
30°	929.9	936.8	955.1	979.2	986.1
32.5°	896.7	907.0	926.5	951.7	959.7
35°	862.3	871.4	894.4	924.2	933.4
37.5°	824.4	837.0	862.3	894.4	905.8
40°	787.7	801.5	830.2	864.6	878.3
42.5°	751.0	764.8	796.9	835.9	849.7
45°	709.8	724.7	761.4	802.6	817.6
47.5°	668.5	686.8	727.0	770.5	786.6
50°	626.1	646.7	690.3	736.1	754.5
52.5°	588.2	607.7	653.6	702.9	720.1
55°	544.7	566.4	616.9	667.3	686.8
57.5°	499.9	524.0	577.9	632.9	652.4
60°	456.4	482.7	542.4	597.4	619.2
62.5°	413.9	440.3	502.2	559.6	581.3
65°	368.1	399.0	463.2	521.7	542.4
67.5°	324.5	357.8	425.4	482.7	503.4
70°	282.1	314.2	386.4	442.6	463.2
72.5°	236.2	272.9	345.1	403.6	425.4
75°	190.3	233.9	305.0	362.3	383.0
77.5°	147.9	192.6	263.7	310.7	321.1
80°	108.9	154.8	216.7	250.0	262.6
82.5°	69.9	115.8	165.1	189.2	199.5
85°	39.0	76.8	107.8	121.5	126.1
87.5°	16.1	33.3	43.6	49.3	49.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)