

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: P313388

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-HRP-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: P313388  
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: 24FCZ2-70HE-UNV-L83050-HRP-CP250-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"  
POLYCARB SHEET  
Light Source: (336) 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**

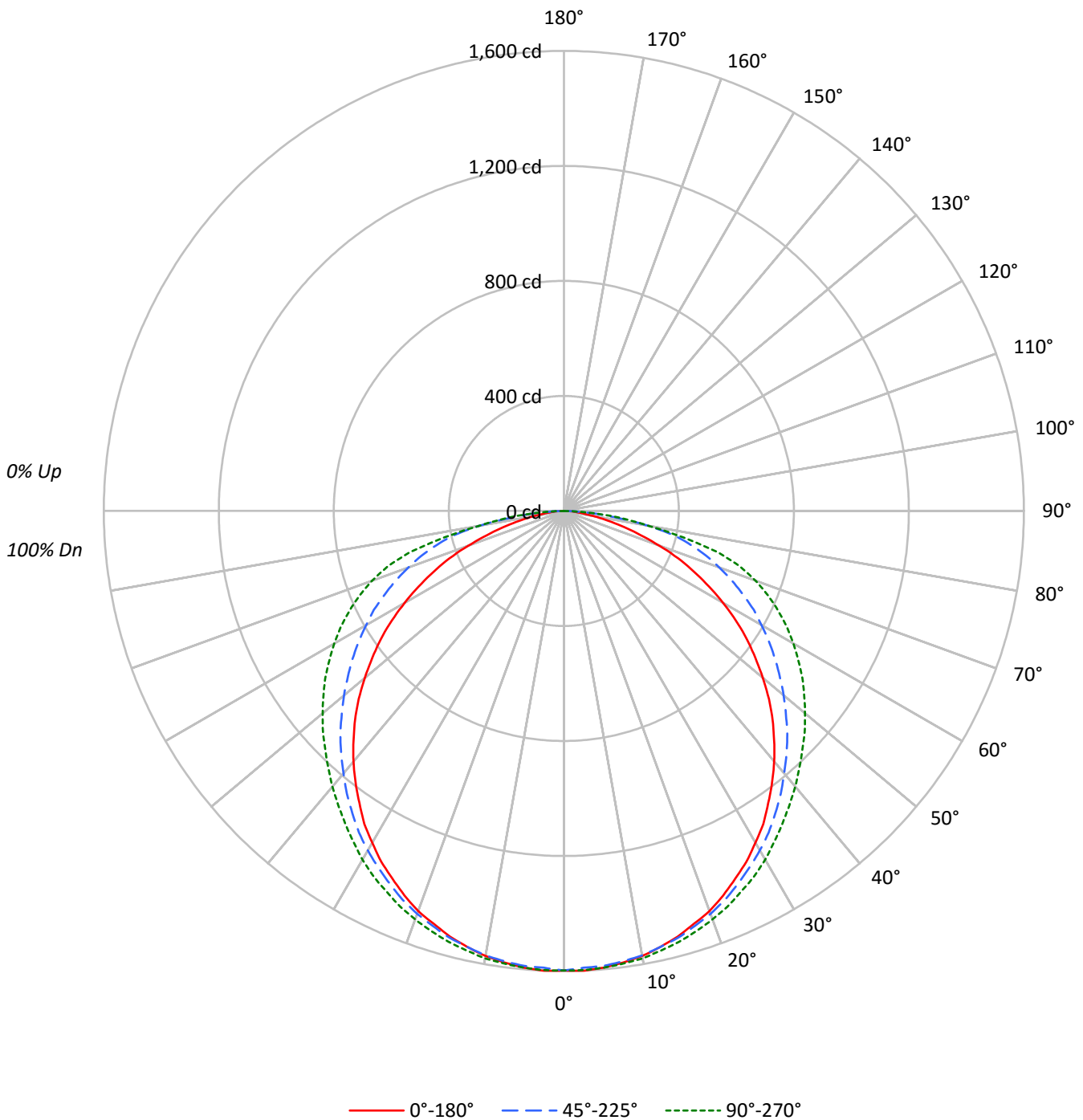
Lumens per Lamp: N/A  
Luminaire Lumens: 4926.0 lumens  
Efficiency: N/A  
Efficacy: 81.4 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 60.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: P313388

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-HRP-CP250-W2A-U-4500K

### Luminous Intensity Polar Plot





TEST NUMBER: P313388

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-HRP-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	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°	2150	2150	2150
5°	2153	2145	2153
10°	2147	2144	2158
15°	2134	2140	2160
20°	2120	2135	2164
25°	2094	2125	2168
30°	2070	2118	2176
35°	2036	2107	2178
40°	1999	2094	2199
45°	1954	2092	2233
50°	1891	2089	2292
55°	1824	2104	2375
60°	1720	2137	2481
65°	1589	2186	2620
70°	1387	2264	2791
75°	1125	2380	2884
80°	831	2333	2333
85°	636	1720	1942



TEST NUMBER: P313388

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-HRP-CP250-W2A-U-4500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	151.4	3.1
10°-20°	434.8	8.8
20°-30°	661.9	13.4
30°-40°	803.7	16.3
40°-50°	849.1	17.2
50°-60°	801.2	16.3
60°-70°	666.2	13.5
70°-80°	438.3	8.9
80°-90°	119.5	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°	1248.1	25.3
0°-40°	2051.8	41.7
0°-60°	3702.1	75.2
0°-90°	4926.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4926.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1598	1598	1598	1598	1598	
5°	1594	1594	1588	1594	1594	151
15°	1532	1534	1536	1551	1551	432
25°	1411	1419	1431	1456	1460	651
35°	1239	1254	1283	1316	1326	776
45°	1027	1048	1099	1153	1173	791
55°	778	810	897	982	1013	692
65°	499	557	687	788	823	493
75°	216	316	458	542	555	233
85°	41	91	111	124	126	50
90°	0	0	0	0	0	



TEST NUMBER: P313388

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-HRP-CP250-W2A-U-4500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1598.2	1598.2	1598.2	1598.2	1598.2
2.5°	1600.3	1598.2	1590.0	1598.2	1598.2
5°	1594.1	1594.1	1587.9	1594.1	1594.1
7.5°	1583.8	1583.8	1579.7	1587.9	1587.9
10°	1571.4	1571.4	1569.4	1579.7	1579.7
12.5°	1552.9	1554.9	1552.9	1565.2	1565.2
15°	1532.3	1534.3	1536.4	1550.8	1550.8
17.5°	1505.4	1509.6	1513.7	1530.2	1532.3
20°	1480.7	1482.8	1491.0	1509.6	1511.6
22.5°	1447.7	1453.9	1464.2	1482.8	1488.9
25°	1410.6	1418.8	1431.2	1455.9	1460.1
27.5°	1375.5	1381.7	1398.2	1425.0	1433.3
30°	1332.2	1342.5	1363.1	1390.0	1400.3
32.5°	1291.0	1301.3	1326.0	1354.9	1363.1
35°	1239.4	1253.8	1282.7	1315.7	1326.0
37.5°	1189.9	1204.4	1239.4	1276.5	1288.9
40°	1138.4	1154.9	1192.0	1235.3	1251.8
42.5°	1082.7	1105.4	1146.6	1194.0	1212.6
45°	1027.0	1047.6	1099.2	1152.8	1173.4
47.5°	967.2	991.9	1047.6	1111.6	1136.3
50°	903.3	934.2	998.1	1068.2	1095.1
52.5°	839.3	874.4	946.6	1024.9	1053.8
55°	777.5	810.5	897.1	981.6	1012.6
57.5°	709.4	750.7	845.5	936.3	967.2
60°	639.3	684.7	794.0	888.8	921.8
62.5°	569.2	620.7	744.5	839.3	874.4
65°	499.1	556.8	686.7	787.8	822.8
67.5°	431.0	494.9	633.1	734.2	769.2
70°	352.6	433.1	575.4	674.4	709.4
72.5°	280.5	373.3	519.7	612.5	643.4
75°	216.5	315.5	457.8	542.4	554.7
77.5°	158.8	257.8	393.9	422.8	424.8
80°	107.2	206.2	301.1	297.0	301.1
82.5°	70.1	154.7	189.7	212.4	214.5
85°	41.2	90.7	111.4	123.7	125.8
87.5°	20.6	30.9	39.2	41.2	45.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)