

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: P314499

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-S-CA125-W2A-U-5000K**

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: P314499  
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: 24FCZ2-70HE-UNV-L83050-S-CA125-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET  
Light Source: (336) 5000K 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: 7154.0 lumens  
Efficiency: N/A  
Efficacy: 118.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

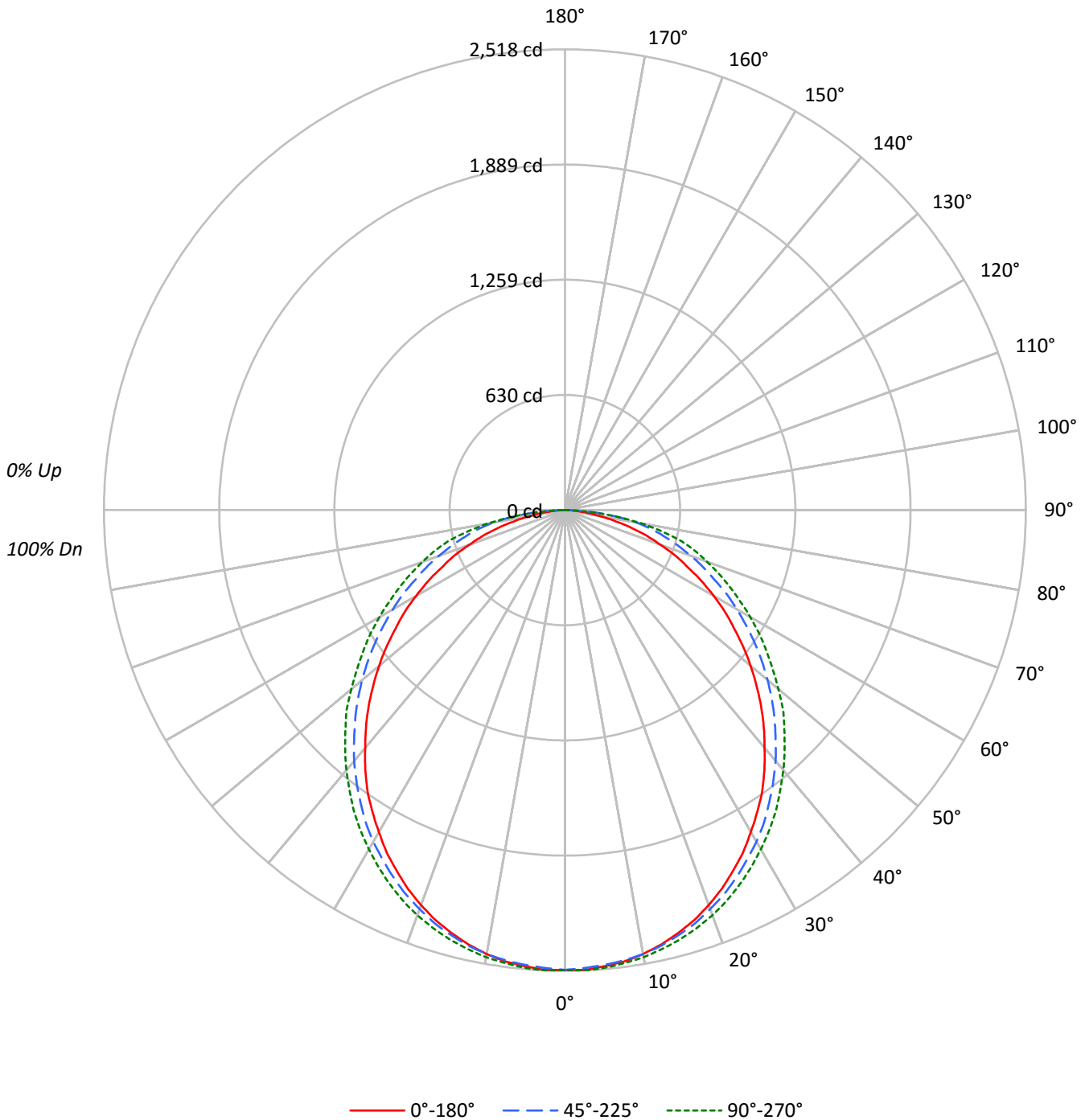
Input Watts (W): 60.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P314499

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-S-CA125-W2A-U-5000K

### Luminous Intensity Polar Plot





TEST NUMBER: P314499

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-S-CA125-W2A-U-5000K

**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°	3381	3381	3381
5°	3379	3370	3391
10°	3365	3365	3390
15°	3333	3349	3384
20°	3290	3322	3374
25°	3229	3289	3353
30°	3156	3252	3326
35°	3087	3199	3300
40°	2982	3145	3261
45°	2884	3083	3226
50°	2773	3025	3187
55°	2649	2969	3156
60°	2525	2923	3149
65°	2366	2872	3169
70°	2190	2888	3254
75°	1961	2941	3438
80°	1585	3116	3363
85°	1193	2736	2666



TEST NUMBER: P314499

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-S-CA125-W2A-U-5000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	237.9	3.3
10°-20°	679.9	9.5
20°-30°	1022.0	14.3
30°-40°	1217.3	17.0
40°-50°	1245.9	17.4
50°-60°	1121.7	15.7
60°-70°	880.9	12.3
70°-80°	571.7	8.0
80°-90°	176.8	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°	1939.8	27.1
0°-40°	3157.1	44.1
0°-60°	5524.6	77.2
0°-90°	7154.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7154.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2513	2513	2513	2513	2513	
5°	2502	2506	2495	2509	2511	238
15°	2393	2400	2404	2425	2429	675
25°	2175	2193	2216	2252	2259	1002
35°	1879	1902	1947	1995	2009	1172
45°	1516	1552	1620	1682	1695	1169
55°	1129	1179	1266	1332	1345	1013
65°	743	800	902	977	995	740
75°	377	450	566	643	661	399
85°	77	143	177	173	173	93
90°	0	0	0	0	0	



TEST NUMBER: P314499

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-S-CA125-W2A-U-5000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2513.2	2513.2	2513.2	2513.2	2513.2
2.5°	2515.5	2515.5	2504.2	2515.5	2517.8
5°	2501.9	2506.4	2495.1	2508.7	2511.0
7.5°	2488.3	2488.3	2481.4	2495.1	2497.3
10°	2463.3	2465.5	2463.3	2479.2	2481.4
12.5°	2431.4	2436.0	2438.3	2454.2	2456.4
15°	2392.8	2399.6	2404.2	2424.6	2429.2
17.5°	2349.6	2356.5	2367.8	2390.5	2395.1
20°	2297.4	2306.5	2320.1	2349.6	2356.5
22.5°	2240.6	2249.7	2272.4	2299.6	2311.0
25°	2174.7	2192.8	2215.6	2251.9	2258.7
27.5°	2108.8	2124.7	2154.2	2192.8	2201.9
30°	2031.5	2056.5	2092.9	2131.5	2140.6
32.5°	1956.5	1981.5	2024.7	2065.6	2077.0
35°	1879.3	1902.0	1947.4	1995.1	2008.8
37.5°	1790.6	1820.2	1870.2	1917.9	1931.5
40°	1697.5	1733.8	1790.6	1840.6	1856.5
42.5°	1608.8	1647.5	1704.3	1758.8	1777.0
45°	1515.7	1552.0	1620.2	1681.6	1695.2
47.5°	1420.2	1461.1	1533.9	1595.2	1617.9
50°	1324.8	1368.0	1445.2	1508.9	1522.5
52.5°	1229.4	1274.8	1356.6	1424.8	1431.6
55°	1129.4	1179.4	1265.7	1331.6	1345.2
57.5°	1038.5	1081.7	1174.8	1243.0	1258.9
60°	938.5	986.2	1086.2	1149.8	1170.3
62.5°	843.1	893.0	997.6	1061.2	1079.4
65°	743.1	799.9	902.1	977.1	995.3
67.5°	656.7	711.3	820.3	893.0	911.2
70°	556.7	618.1	734.0	809.0	827.1
72.5°	470.4	534.0	649.9	722.6	749.9
75°	377.2	449.9	565.8	643.1	661.3
77.5°	286.3	370.4	488.6	547.6	547.6
80°	204.5	293.1	402.2	429.5	434.0
82.5°	134.1	220.4	297.7	295.4	295.4
85°	77.3	143.2	177.2	172.7	172.7
87.5°	29.5	59.1	63.6	63.6	61.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)