

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: P310413

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CA125-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: P310413  
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: 24FCZ2-70HE-UNV-L82765-RDP-CA125-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" ACRYLIC 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: 4389.0 lumens  
Efficiency: N/A  
Efficacy: 74.6 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

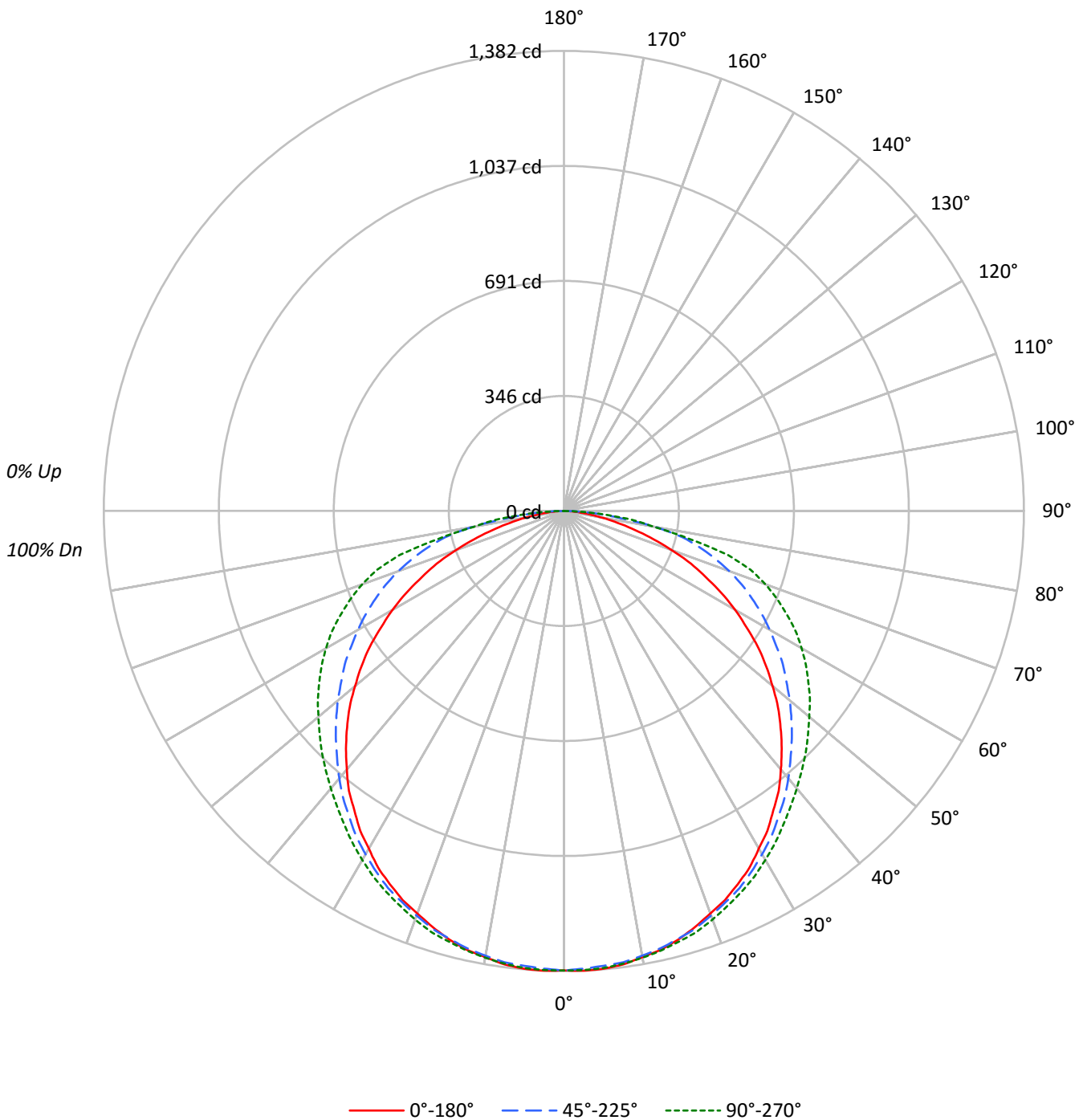
Input Watts (W): 58.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**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°	1857	1857	1857
5°	1864	1852	1861
10°	1859	1853	1862
15°	1856	1853	1865
20°	1842	1852	1870
25°	1836	1855	1875
30°	1820	1850	1881
35°	1802	1845	1888
40°	1782	1843	1912
45°	1752	1843	1955
50°	1714	1855	2014
55°	1670	1884	2104
60°	1599	1922	2220
65°	1497	1989	2357
70°	1362	2081	2535
75°	1155	2195	2648
80°	911	2210	2142
85°	672	1680	1882



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.9	3.0
10°-20°	376.8	8.6
20°-30°	576.2	13.1
30°-40°	704.4	16.0
40°-50°	750.8	17.1
50°-60°	717.8	16.4
60°-70°	608.1	13.9
70°-80°	408.7	9.3
80°-90°	115.3	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°	1083.9	24.7
0°-40°	1788.4	40.7
0°-60°	3256.9	74.2
0°-90°	4389.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4389.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1380	1380	1380	1380	1380	
5°	1380	1378	1372	1378	1378	131
15°	1332	1332	1330	1341	1339	376
25°	1236	1241	1250	1260	1263	570
35°	1097	1106	1123	1145	1150	687
45°	921	936	969	1010	1028	710
55°	712	738	803	866	897	634
65°	470	518	625	708	740	467
75°	222	303	422	494	509	238
85°	44	89	109	118	122	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1380.2	1380.2	1380.2	1380.2	1380.2
2.5°	1382.4	1382.4	1375.9	1380.2	1380.2
5°	1380.2	1378.0	1371.5	1378.0	1378.0
7.5°	1373.7	1371.5	1367.2	1373.7	1371.5
10°	1360.6	1360.6	1356.3	1362.8	1362.8
12.5°	1349.7	1347.6	1345.4	1354.1	1351.9
15°	1332.3	1332.3	1330.1	1341.0	1338.9
17.5°	1310.6	1312.7	1314.9	1323.6	1325.8
20°	1286.6	1291.0	1293.1	1306.2	1306.2
22.5°	1264.8	1267.0	1271.4	1284.4	1284.4
25°	1236.5	1240.9	1249.6	1260.5	1262.7
27.5°	1208.2	1210.4	1221.3	1236.5	1238.7
30°	1171.2	1177.8	1190.8	1208.2	1210.4
32.5°	1138.6	1145.1	1160.3	1177.8	1182.1
35°	1097.2	1105.9	1123.3	1145.1	1149.5
37.5°	1060.2	1066.7	1088.5	1112.4	1119.0
40°	1014.5	1027.5	1049.3	1077.6	1088.5
42.5°	968.8	981.8	1007.9	1045.0	1058.0
45°	920.9	936.1	968.8	1010.1	1027.5
47.5°	873.0	890.4	927.4	975.3	994.9
50°	818.6	840.3	886.0	940.5	962.2
52.5°	766.3	792.4	842.5	903.5	931.8
55°	711.9	738.0	803.3	866.4	896.9
57.5°	650.9	685.8	757.6	829.4	862.1
60°	594.3	627.0	714.1	792.4	825.1
62.5°	533.4	576.9	670.5	753.2	785.9
65°	470.2	518.1	624.8	707.5	740.2
67.5°	413.6	465.9	579.1	661.8	694.5
70°	346.1	411.5	529.0	611.7	644.4
72.5°	283.0	354.9	476.8	557.3	587.8
75°	222.1	302.6	422.3	494.2	509.4
77.5°	165.5	250.4	365.7	396.2	385.3
80°	117.6	200.3	285.2	269.9	276.5
82.5°	76.2	152.4	176.3	200.3	206.8
85°	43.5	89.3	108.8	117.6	121.9
87.5°	19.6	32.7	43.5	43.5	41.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)