

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: P310410

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CA125-W2A-U-3000K**

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: P310410  
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-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" ACRYLIC SHEET  
Light Source: (336) 3000K 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: 4079.0 lumens  
Efficiency: N/A  
Efficacy: 71.2 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

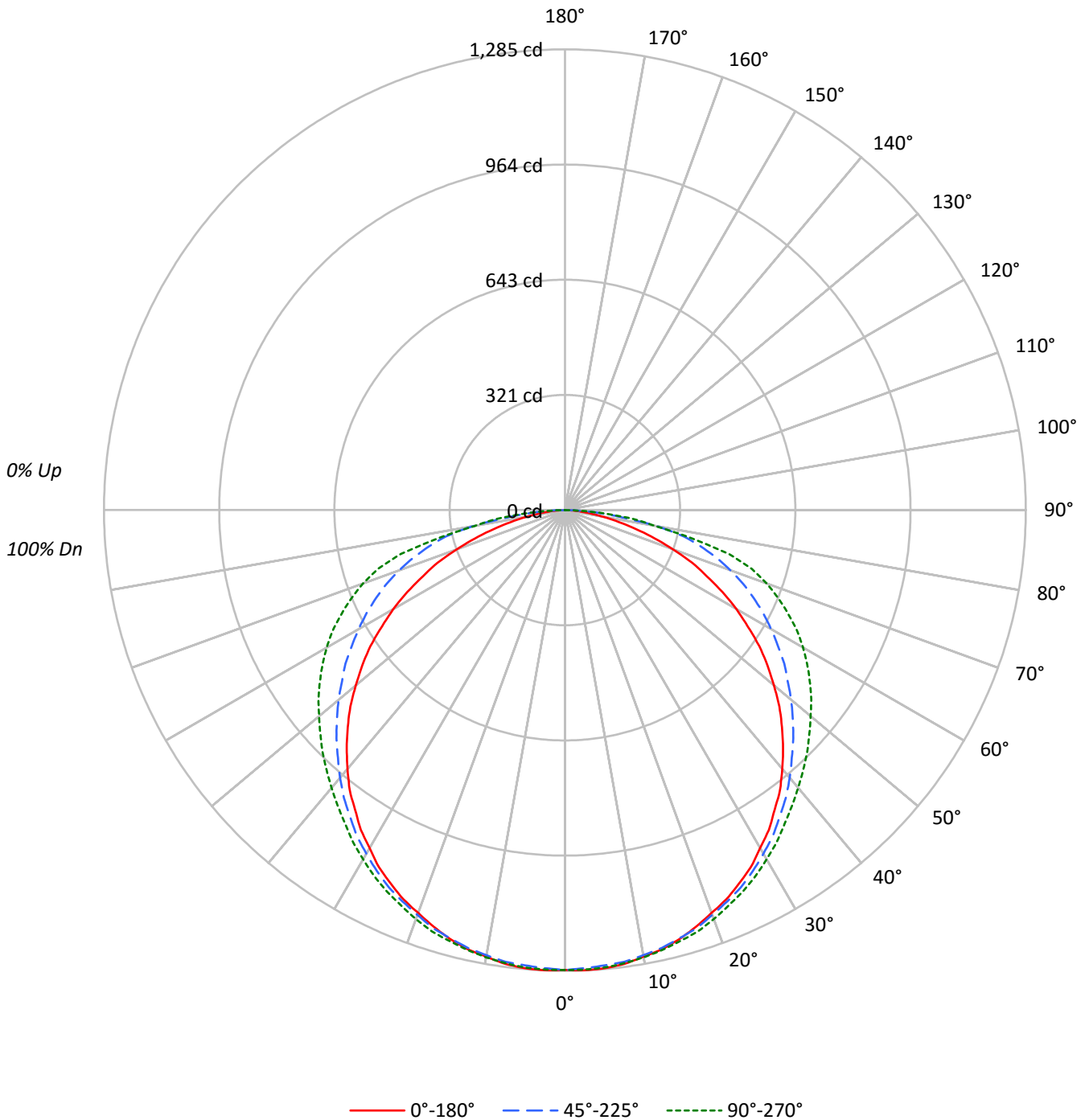
Input Watts (W): 57.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1726	1726	1726
5°	1732	1722	1730
10°	1728	1722	1730
15°	1725	1722	1733
20°	1712	1721	1738
25°	1706	1724	1742
30°	1691	1719	1748
35°	1675	1715	1755
40°	1656	1713	1777
45°	1628	1713	1817
50°	1592	1724	1872
55°	1552	1751	1955
60°	1486	1786	2063
65°	1391	1849	2190
70°	1266	1934	2356
75°	1073	2040	2461
80°	847	2053	1991
85°	625	1562	1749



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.7	3.0
10°-20°	350.2	8.6
20°-30°	535.5	13.1
30°-40°	654.7	16.0
40°-50°	697.7	17.1
50°-60°	667.1	16.4
60°-70°	565.1	13.9
70°-80°	379.8	9.3
80°-90°	107.1	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°	1007.4	24.7
0°-40°	1662.0	40.7
0°-60°	3026.9	74.2
0°-90°	4079.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4079.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1283	1283	1283	1283	1283	
5°	1283	1281	1275	1281	1281	122
15°	1238	1238	1236	1246	1244	349
25°	1149	1153	1161	1172	1174	530
35°	1020	1028	1044	1064	1068	639
45°	856	870	900	939	955	660
55°	662	686	747	805	834	589
65°	437	482	581	658	688	434
75°	206	281	392	459	473	221
85°	40	83	101	109	113	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1282.7	1282.7	1282.7	1282.7	1282.7
2.5°	1284.8	1284.8	1278.7	1282.7	1282.7
5°	1282.7	1280.7	1274.6	1280.7	1280.7
7.5°	1276.7	1274.6	1270.6	1276.7	1274.6
10°	1264.5	1264.5	1260.5	1266.5	1266.5
12.5°	1254.4	1252.4	1250.4	1258.5	1256.4
15°	1238.2	1238.2	1236.2	1246.3	1244.3
17.5°	1218.0	1220.0	1222.0	1230.1	1232.1
20°	1195.7	1199.8	1201.8	1213.9	1213.9
22.5°	1175.5	1177.5	1181.6	1193.7	1193.7
25°	1149.2	1153.2	1161.3	1171.5	1173.5
27.5°	1122.9	1124.9	1135.0	1149.2	1151.2
30°	1088.5	1094.6	1106.7	1122.9	1124.9
32.5°	1058.2	1064.2	1078.4	1094.6	1098.6
35°	1019.7	1027.8	1044.0	1064.2	1068.3
37.5°	985.3	991.4	1011.6	1033.9	1039.9
40°	942.8	955.0	975.2	1001.5	1011.6
42.5°	900.3	912.5	936.8	971.2	983.3
45°	855.8	870.0	900.3	938.8	955.0
47.5°	811.3	827.5	861.9	906.4	924.6
50°	760.7	781.0	823.5	874.0	894.3
52.5°	712.2	736.5	783.0	839.6	865.9
55°	661.6	685.9	746.6	805.2	833.6
57.5°	604.9	637.3	704.1	770.9	801.2
60°	552.3	582.7	663.6	736.5	766.8
62.5°	495.7	536.2	623.2	700.0	730.4
65°	437.0	481.5	580.7	657.6	687.9
67.5°	384.4	433.0	538.2	615.1	645.4
70°	321.7	382.4	491.6	568.5	598.9
72.5°	263.0	329.8	443.1	517.9	546.3
75°	206.4	281.2	392.5	459.3	473.4
77.5°	153.8	232.7	339.9	368.2	358.1
80°	109.3	186.1	265.0	250.9	257.0
82.5°	70.8	141.6	163.9	186.1	192.2
85°	40.5	83.0	101.2	109.3	113.3
87.5°	18.2	30.3	40.5	40.5	38.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)