

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: P310436

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CP250-W2A-U-2700K**

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: P310436
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-CP250-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 2700K 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: 3692.0 lumens
Efficiency: N/A
Efficacy: 64.0 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

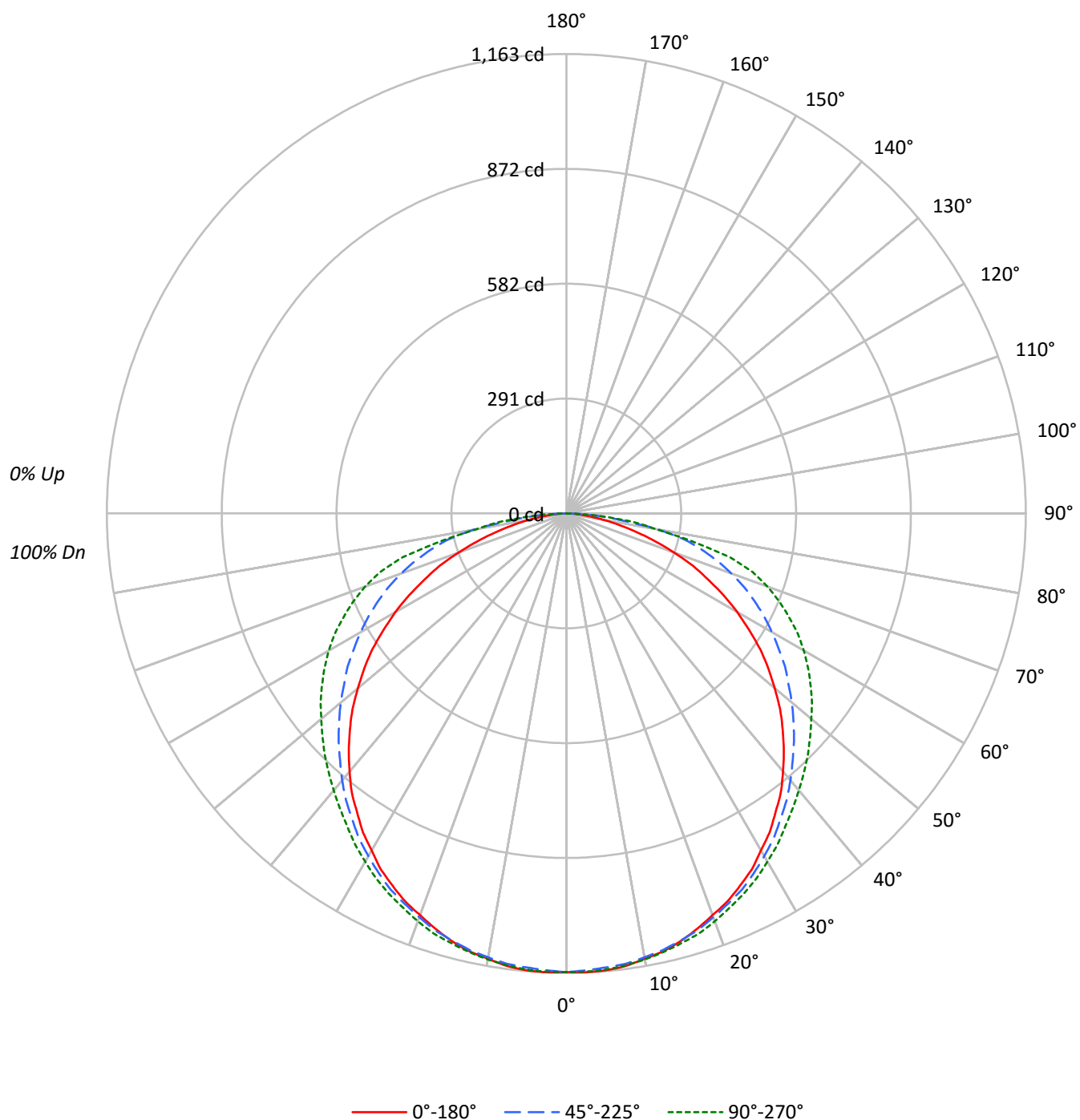
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	93	89		92	89	87		82
2	97	89	81	75	95	87	80	74	83	77	72		80	75	71		67
3	88	77	68	62	86	76	67	61	72	66	60		70	64	59		56
4	81	68	59	52	78	67	58	51	64	57	51		62	55	50		47
5	74	60	51	44	72	59	51	44	57	49	43		55	48	43		40
6	68	54	45	38	66	53	45	38	51	44	38		50	43	37		35
7	63	49	40	34	61	48	40	34	47	39	33		45	38	33		31
8	59	45	36	30	57	44	36	30	43	35	30		41	34	29		27
9	55	41	33	27	53	40	32	27	39	32	27		38	31	26		24
10	51	38	30	24	50	37	29	24	36	29	24		35	29	24		22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1562	1562	1562
5°	1568	1558	1566
10°	1564	1559	1566
15°	1561	1559	1569
20°	1550	1558	1573
25°	1544	1561	1577
30°	1531	1556	1582
35°	1516	1552	1588
40°	1499	1550	1608
45°	1474	1551	1645
50°	1441	1560	1694
55°	1405	1585	1770
60°	1345	1616	1868
65°	1259	1673	1982
70°	1146	1751	2133
75°	971	1847	2228
80°	766	1859	1802
85°	565	1414	1584



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.1	3.0
10°-20°	317.0	8.6
20°-30°	484.7	13.1
30°-40°	592.6	16.0
40°-50°	631.5	17.1
50°-60°	603.8	16.4
60°-70°	511.5	13.9
70°-80°	343.8	9.3
80°-90°	97.0	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°	911.8	24.7
0°-40°	1504.4	40.7
0°-60°	2739.7	74.2
0°-90°	3692.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3692.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1161	1161	1161	1161	1161	
5°	1161	1159	1154	1159	1159	110
15°	1121	1121	1119	1128	1126	316
25°	1040	1044	1051	1060	1062	479
35°	923	930	945	963	967	578
45°	775	787	815	850	864	597
55°	599	621	676	729	754	533
65°	396	436	526	595	623	393
75°	187	254	355	416	428	200
85°	37	75	92	99	103	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1161.0	1161.0	1161.0	1161.0	1161.0
2.5°	1162.9	1162.9	1157.4	1161.0	1161.0
5°	1161.0	1159.2	1153.7	1159.2	1159.2
7.5°	1155.5	1153.7	1150.0	1155.5	1153.7
10°	1144.5	1144.5	1140.9	1146.4	1146.4
12.5°	1135.4	1133.6	1131.7	1139.1	1137.2
15°	1120.7	1120.7	1118.9	1128.1	1126.2
17.5°	1102.4	1104.3	1106.1	1113.4	1115.2
20°	1082.3	1085.9	1087.8	1098.8	1098.8
22.5°	1064.0	1065.8	1069.5	1080.5	1080.5
25°	1040.2	1043.8	1051.2	1060.3	1062.1
27.5°	1016.4	1018.2	1027.3	1040.2	1042.0
30°	985.2	990.7	1001.7	1016.4	1018.2
32.5°	957.8	963.3	976.1	990.7	994.4
35°	923.0	930.3	944.9	963.3	966.9
37.5°	891.8	897.3	915.6	935.8	941.3
40°	853.4	864.4	882.7	906.5	915.6
42.5°	814.9	825.9	847.9	879.0	890.0
45°	774.6	787.4	814.9	849.7	864.4
47.5°	734.3	749.0	780.1	820.4	836.9
50°	688.6	706.9	745.3	791.1	809.4
52.5°	644.6	666.6	708.7	760.0	783.8
55°	598.8	620.8	675.7	728.8	754.5
57.5°	547.6	576.9	637.3	697.7	725.2
60°	499.9	527.4	600.7	666.6	694.1
62.5°	448.7	485.3	564.0	633.6	661.1
65°	395.6	435.8	525.6	595.2	622.6
67.5°	347.9	391.9	487.1	556.7	584.2
70°	291.2	346.1	445.0	514.6	542.1
72.5°	238.1	298.5	401.0	468.8	494.4
75°	186.8	254.5	355.3	415.7	428.5
77.5°	139.2	210.6	307.7	333.3	324.1
80°	98.9	168.5	239.9	227.1	232.6
82.5°	64.1	128.2	148.3	168.5	174.0
85°	36.6	75.1	91.6	98.9	102.6
87.5°	16.5	27.5	36.6	36.6	34.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)