

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: P311118

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CP250-W2A-U-5700K**

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: P311118
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CP250-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5700K 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: 6237.0 lumens
Efficiency: N/A
Efficacy: 105.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

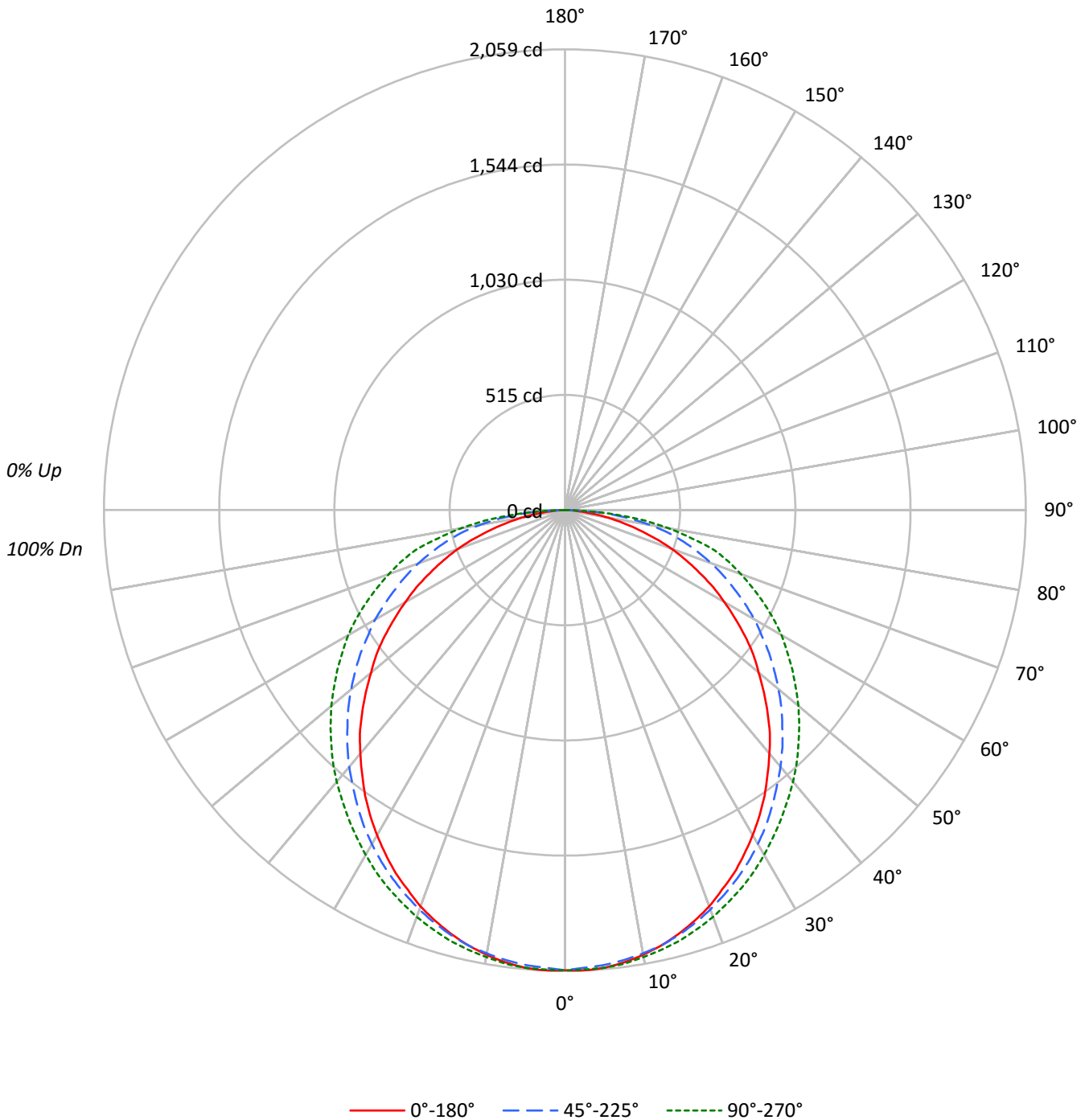
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 24FC22-70HE-UNV-L82765-CP250-W2A-U-5700K

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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2768	2768	2768
5°	2773	2756	2773
10°	2757	2748	2771
15°	2733	2738	2773
20°	2699	2720	2770
25°	2657	2700	2768
30°	2607	2678	2765
35°	2556	2651	2767
40°	2497	2631	2784
45°	2437	2614	2807
50°	2365	2608	2850
55°	2306	2612	2908
60°	2216	2634	3007
65°	2115	2662	3116
70°	2003	2744	3289
75°	1786	2861	3593
80°	1523	3030	3672
85°	1087	3003	3514



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.7	3.1
10°-20°	556.6	8.9
20°-30°	840.7	13.5
30°-40°	1013.2	16.2
40°-50°	1063.7	17.1
50°-60°	995.2	16.0
60°-70°	821.8	13.2
70°-80°	560.0	9.0
80°-90°	191.0	3.1
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°	1592.0	25.5
0°-40°	2605.2	41.8
0°-60°	4664.1	74.8
0°-90°	6237.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6237.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2057	2057	2057	2057	2057	
5°	2053	2051	2040	2053	2053	195
15°	1962	1964	1966	1987	1991	553
25°	1790	1798	1819	1854	1864	824
35°	1556	1573	1614	1668	1684	972
45°	1281	1308	1374	1448	1475	988
55°	983	1022	1113	1204	1240	877
65°	664	720	836	942	979	659
75°	344	422	550	654	691	366
85°	70	139	194	219	228	88
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2056.9	2056.9	2056.9	2056.9	2056.9
2.5°	2059.0	2056.9	2046.6	2056.9	2054.8
5°	2052.8	2050.7	2040.4	2052.8	2052.8
7.5°	2038.3	2038.3	2027.9	2042.4	2044.5
10°	2017.6	2017.6	2011.4	2027.9	2027.9
12.5°	1992.8	1992.8	1992.8	2009.3	2011.4
15°	1961.7	1963.8	1965.9	1986.6	1990.7
17.5°	1924.5	1928.6	1934.8	1959.7	1963.8
20°	1885.2	1889.3	1899.6	1928.6	1934.8
22.5°	1835.5	1845.8	1860.3	1893.4	1899.6
25°	1790.0	1798.2	1818.9	1854.1	1864.5
27.5°	1734.1	1746.5	1773.4	1810.7	1825.1
30°	1678.2	1690.6	1723.7	1767.2	1779.6
32.5°	1618.2	1636.8	1672.0	1717.5	1732.0
35°	1556.1	1572.7	1614.1	1667.9	1684.4
37.5°	1487.8	1510.6	1556.1	1614.1	1634.8
40°	1421.6	1446.5	1498.2	1560.3	1585.1
42.5°	1355.4	1380.2	1438.2	1508.5	1533.4
45°	1280.9	1307.8	1374.0	1448.5	1475.4
47.5°	1206.4	1239.5	1312.0	1390.6	1419.6
50°	1129.9	1167.1	1245.7	1328.5	1361.6
52.5°	1061.6	1096.7	1179.5	1268.5	1299.5
55°	982.9	1022.2	1113.3	1204.3	1239.5
57.5°	902.2	945.7	1042.9	1142.3	1177.4
60°	823.6	871.2	978.8	1078.1	1117.4
62.5°	747.0	794.6	906.4	1009.8	1049.1
65°	664.3	720.1	836.0	941.5	978.8
67.5°	585.6	645.6	767.7	871.2	908.4
70°	509.1	567.0	697.4	798.8	836.0
72.5°	426.3	492.5	622.9	728.4	767.7
75°	343.5	422.1	550.4	653.9	691.2
77.5°	266.9	347.6	475.9	560.8	579.4
80°	196.6	279.4	391.1	451.1	473.9
82.5°	126.2	209.0	298.0	341.4	360.1
85°	70.4	138.6	194.5	219.3	227.6
87.5°	29.0	60.0	78.6	89.0	89.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)