

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: P311116

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CP250-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: P311116
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-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB 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: 6160.0 lumens
Efficiency: N/A
Efficacy: 104.2 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

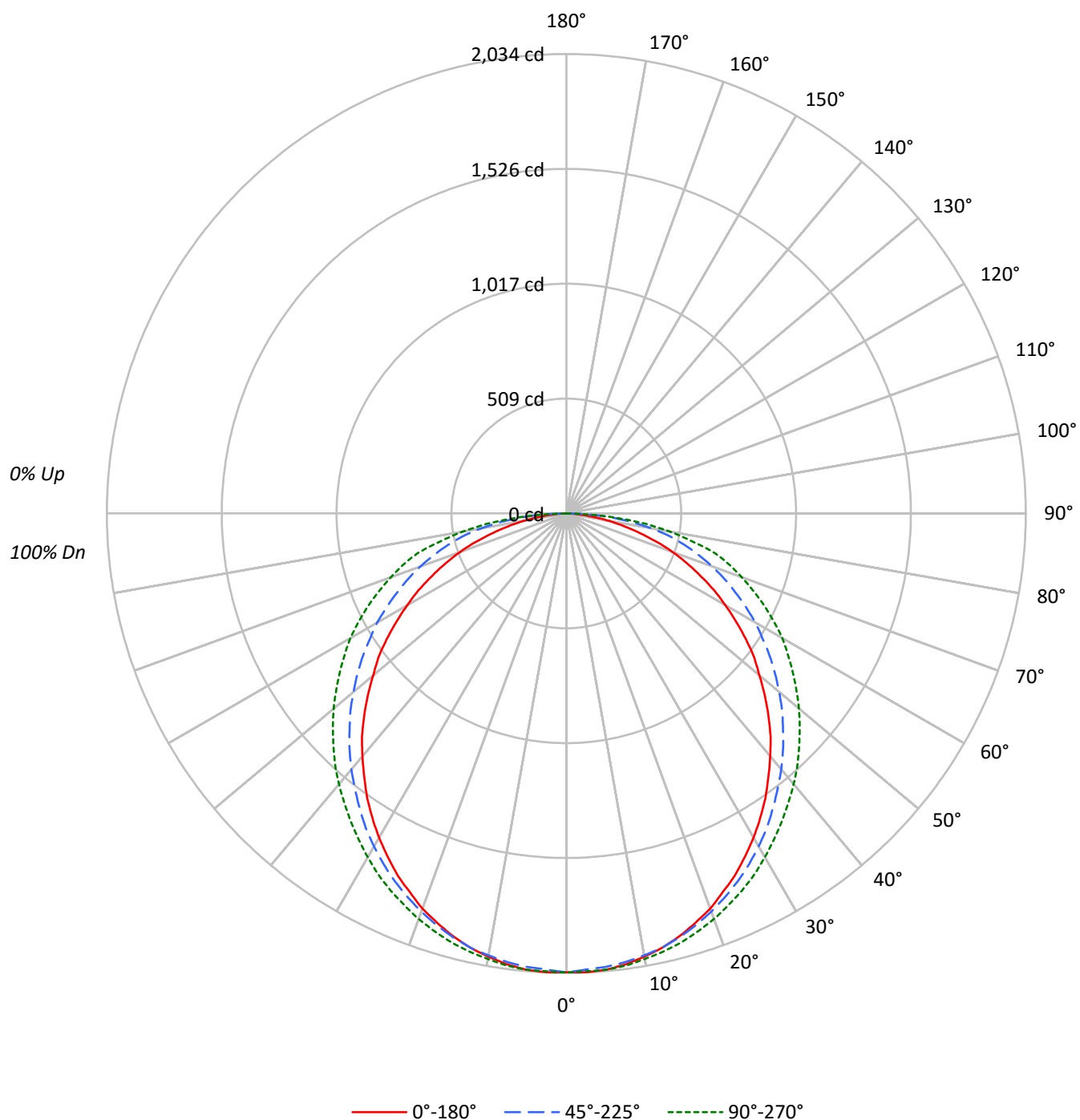
Input Watts (W): 59.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2733	2733	2733
5°	2738	2722	2738
10°	2723	2714	2736
15°	2699	2705	2739
20°	2666	2686	2736
25°	2625	2667	2734
30°	2575	2645	2731
35°	2524	2618	2733
40°	2466	2599	2750
45°	2407	2582	2773
50°	2336	2575	2815
55°	2277	2579	2872
60°	2189	2601	2970
65°	2089	2629	3078
70°	1978	2710	3248
75°	1764	2826	3549
80°	1505	2993	3626
85°	1073	2966	3470



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	192.3	3.1
10°-20°	549.7	8.9
20°-30°	830.3	13.5
30°-40°	1000.7	16.2
40°-50°	1050.6	17.1
50°-60°	982.9	16.0
60°-70°	811.7	13.2
70°-80°	553.1	9.0
80°-90°	188.6	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°	1572.3	25.5
0°-40°	2573.1	41.8
0°-60°	4606.6	74.8
0°-90°	6160.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6160.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2032	2032	2032	2032	2032	
5°	2027	2025	2015	2027	2027	192
15°	1938	1940	1942	1962	1966	546
25°	1768	1776	1796	1831	1841	813
35°	1537	1553	1594	1647	1664	960
45°	1265	1292	1357	1431	1457	976
55°	971	1010	1100	1190	1224	867
65°	656	711	826	930	967	651
75°	339	417	544	646	683	362
85°	70	137	192	217	225	87
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2031.5	2031.5	2031.5	2031.5	2031.5
2.5°	2033.6	2031.5	2021.3	2031.5	2029.5
5°	2027.4	2025.4	2015.2	2027.4	2027.4
7.5°	2013.1	2013.1	2002.9	2017.2	2019.3
10°	1992.7	1992.7	1986.6	2002.9	2002.9
12.5°	1968.2	1968.2	1968.2	1984.5	1986.6
15°	1937.5	1939.5	1941.6	1962.0	1966.1
17.5°	1900.7	1904.8	1910.9	1935.5	1939.5
20°	1861.9	1866.0	1876.2	1904.8	1910.9
22.5°	1812.8	1823.0	1837.4	1870.1	1876.2
25°	1767.9	1776.0	1796.5	1831.2	1841.4
27.5°	1712.7	1724.9	1751.5	1788.3	1802.6
30°	1657.5	1669.8	1702.5	1745.4	1757.6
32.5°	1598.2	1616.6	1651.4	1696.3	1710.6
35°	1536.9	1553.3	1594.1	1647.3	1663.6
37.5°	1469.5	1492.0	1536.9	1594.1	1614.6
40°	1404.1	1428.6	1479.7	1541.0	1565.5
42.5°	1338.7	1363.2	1420.4	1489.9	1514.4
45°	1265.1	1291.7	1357.1	1430.6	1457.2
47.5°	1191.5	1224.2	1295.8	1373.4	1402.0
50°	1115.9	1152.7	1230.4	1312.1	1344.8
52.5°	1048.5	1083.2	1165.0	1252.8	1283.5
55°	970.8	1009.6	1099.6	1189.5	1224.2
57.5°	891.1	934.0	1030.1	1128.2	1162.9
60°	813.4	860.4	966.7	1064.8	1103.6
62.5°	737.8	784.8	895.2	997.4	1036.2
65°	656.1	711.2	825.7	929.9	966.7
67.5°	578.4	637.7	758.2	860.4	897.2
70°	502.8	560.0	688.8	788.9	825.7
72.5°	421.0	486.4	615.2	719.4	758.2
75°	339.3	416.9	543.6	645.8	682.6
77.5°	263.6	343.4	470.1	553.9	572.3
80°	194.2	275.9	386.3	445.5	468.0
82.5°	124.7	206.4	294.3	337.2	355.6
85°	69.5	136.9	192.1	216.6	224.8
87.5°	28.6	59.3	77.7	87.9	87.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)