

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: P314137

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-CP250-W2A-U-4000K**

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: P314137
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-L83050-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 4000K 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: 6282.0 lumens
Efficiency: N/A
Efficacy: 106.5 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

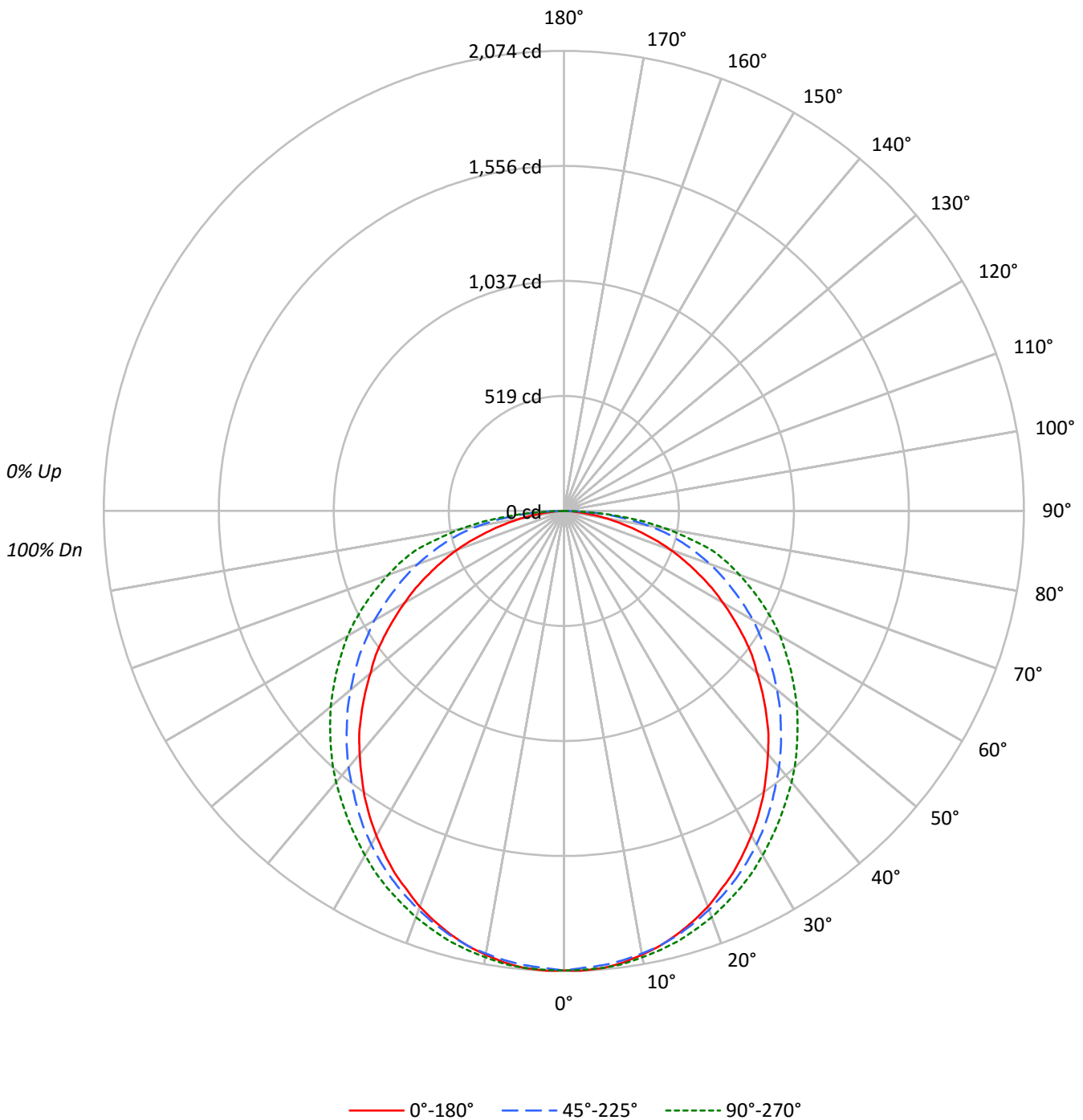
Input Watts (W): 59
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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°	2787	2787	2787
5°	2793	2776	2793
10°	2776	2768	2791
15°	2752	2758	2793
20°	2719	2740	2790
25°	2677	2720	2788
30°	2626	2697	2785
35°	2575	2670	2787
40°	2515	2650	2804
45°	2455	2633	2828
50°	2382	2626	2871
55°	2322	2630	2929
60°	2232	2653	3029
65°	2130	2681	3139
70°	2017	2763	3312
75°	1799	2882	3619
80°	1534	3052	3698
85°	1095	3024	3540



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.1	3.1
10°-20°	560.6	8.9
20°-30°	846.8	13.5
30°-40°	1020.6	16.2
40°-50°	1071.4	17.1
50°-60°	1002.4	16.0
60°-70°	827.8	13.2
70°-80°	564.1	9.0
80°-90°	192.4	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°	1603.5	25.5
0°-40°	2624.0	41.8
0°-60°	4697.8	74.8
0°-90°	6282.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6282.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2072	2072	2072	2072	2072	
5°	2068	2066	2055	2068	2068	196
15°	1976	1978	1980	2001	2005	557
25°	1803	1811	1832	1868	1878	830
35°	1567	1584	1626	1680	1697	979
45°	1290	1317	1384	1459	1486	995
55°	990	1030	1121	1213	1248	884
65°	669	725	842	948	986	664
75°	346	425	554	659	696	369
85°	71	140	196	221	229	89
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2071.7	2071.7	2071.7	2071.7	2071.7
2.5°	2073.8	2071.7	2061.3	2071.7	2069.7
5°	2067.6	2065.5	2055.1	2067.6	2067.6
7.5°	2053.0	2053.0	2042.6	2057.2	2059.2
10°	2032.1	2032.1	2025.9	2042.6	2042.6
12.5°	2007.1	2007.1	2007.1	2023.8	2025.9
15°	1975.9	1978.0	1980.0	2000.9	2005.1
17.5°	1938.4	1942.5	1948.8	1973.8	1978.0
20°	1898.8	1902.9	1913.3	1942.5	1948.8
22.5°	1848.7	1859.2	1873.7	1907.1	1913.3
25°	1802.9	1811.2	1832.1	1867.5	1877.9
27.5°	1746.6	1759.1	1786.2	1823.7	1838.3
30°	1690.3	1702.8	1736.2	1780.0	1792.5
32.5°	1629.9	1648.6	1684.1	1729.9	1744.5
35°	1567.4	1584.0	1625.7	1679.9	1696.6
37.5°	1498.6	1521.5	1567.4	1625.7	1646.6
40°	1431.9	1456.9	1509.0	1571.5	1596.5
42.5°	1365.2	1390.2	1448.6	1519.4	1544.4
45°	1290.2	1317.2	1383.9	1459.0	1486.1
47.5°	1215.1	1248.5	1321.4	1400.6	1429.8
50°	1138.0	1175.5	1254.7	1338.1	1371.4
52.5°	1069.2	1104.7	1188.0	1277.6	1308.9
55°	990.0	1029.6	1121.3	1213.0	1248.5
57.5°	908.7	952.5	1050.5	1150.5	1185.9
60°	829.5	877.5	985.9	1085.9	1125.5
62.5°	752.4	800.4	912.9	1017.1	1056.7
65°	669.0	725.3	842.0	948.3	985.9
67.5°	589.8	650.3	773.3	877.5	915.0
70°	512.7	571.1	702.4	804.5	842.0
72.5°	429.4	496.1	627.4	733.7	773.3
75°	346.0	425.2	554.4	658.6	696.1
77.5°	268.9	350.2	479.4	564.8	583.6
80°	198.0	281.4	393.9	454.4	477.3
82.5°	127.1	210.5	300.1	343.9	362.7
85°	70.9	139.6	195.9	220.9	229.3
87.5°	29.2	60.4	79.2	89.6	89.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)