

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: P314139

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-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: P314139
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-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: 6342.0 lumens
Efficiency: N/A
Efficacy: 104.8 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

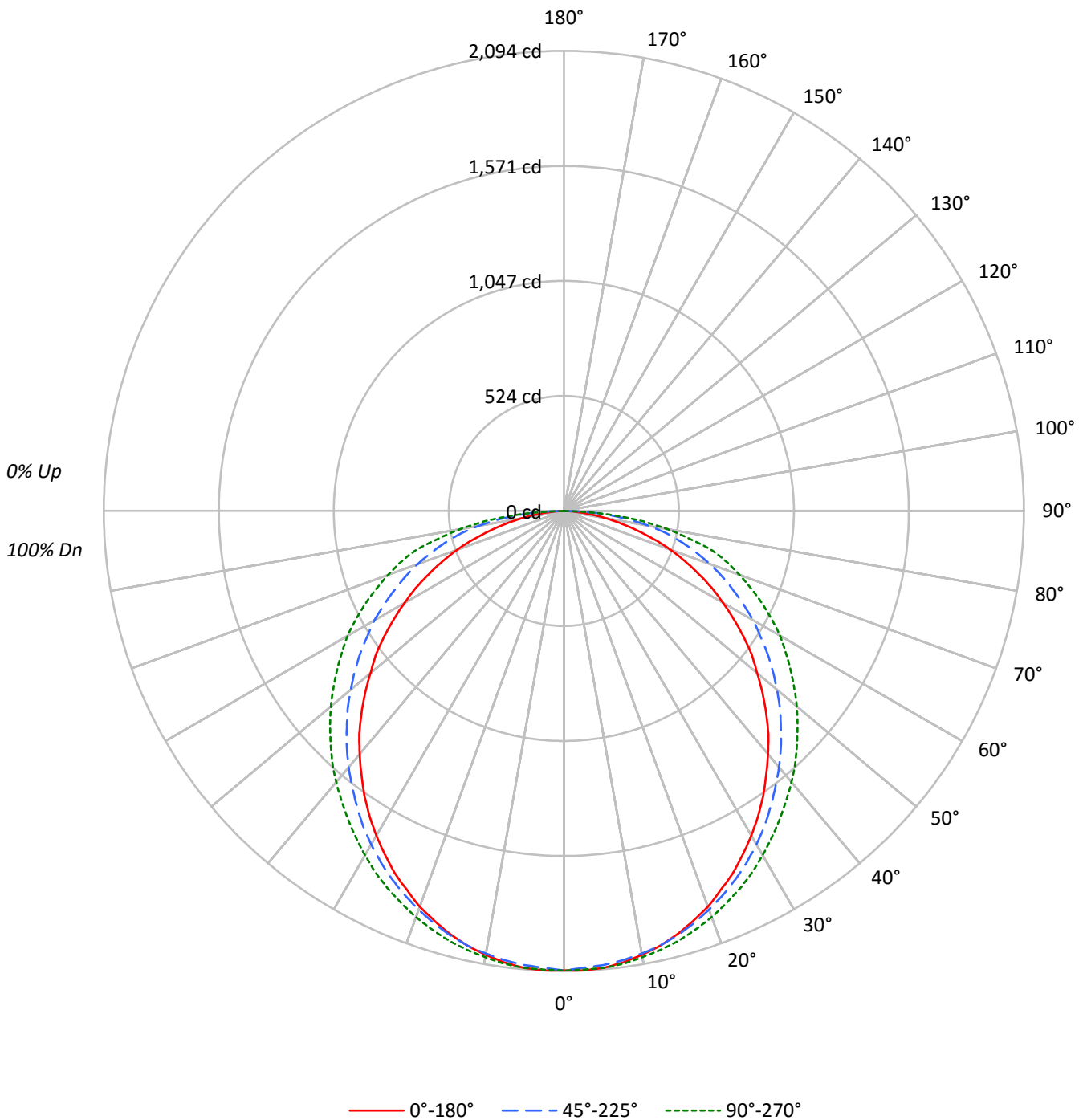
Input Watts (W): 60.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P314139

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-CP250-W2A-U-5000K

Luminous Intensity Polar Plot





TEST NUMBER: P314139

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-CP250-W2A-U-5000K

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	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°	2814	2814	2814
5°	2819	2802	2819
10°	2803	2794	2817
15°	2779	2785	2820
20°	2745	2766	2817
25°	2702	2746	2814
30°	2651	2723	2811
35°	2599	2696	2813
40°	2539	2676	2831
45°	2478	2659	2855
50°	2405	2651	2898
55°	2345	2655	2957
60°	2254	2678	3057
65°	2150	2706	3169
70°	2036	2790	3344
75°	1816	2910	3654
80°	1549	3082	3734
85°	1104	3054	3574



TEST NUMBER: P314139

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-CP250-W2A-U-5000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.9	3.1
10°-20°	566.0	8.9
20°-30°	854.9	13.5
30°-40°	1030.3	16.2
40°-50°	1081.6	17.1
50°-60°	1011.9	16.0
60°-70°	835.7	13.2
70°-80°	569.4	9.0
80°-90°	194.2	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°	1618.8	25.5
0°-40°	2649.1	41.8
0°-60°	4742.7	74.8
0°-90°	6342.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6342.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2092	2092	2092	2092	2092	
5°	2087	2085	2075	2087	2087	198
15°	1995	1997	1999	2020	2024	562
25°	1820	1828	1850	1885	1896	837
35°	1582	1599	1641	1696	1713	989
45°	1302	1330	1397	1473	1500	1005
55°	1000	1040	1132	1225	1260	892
65°	675	732	850	957	995	670
75°	349	429	560	665	703	372
85°	72	141	198	223	232	90
90°	0	0	0	0	0	



TEST NUMBER: P314139

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-CP250-W2A-U-5000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2091.5	2091.5	2091.5	2091.5	2091.5
2.5°	2093.6	2091.5	2081.0	2091.5	2089.4
5°	2087.3	2085.2	2074.7	2087.3	2087.3
7.5°	2072.6	2072.6	2062.1	2076.8	2078.9
10°	2051.6	2051.6	2045.2	2062.1	2062.1
12.5°	2026.3	2026.3	2026.3	2043.1	2045.2
15°	1994.7	1996.8	1999.0	2020.0	2024.2
17.5°	1956.9	1961.1	1967.4	1992.6	1996.8
20°	1916.9	1921.1	1931.6	1961.1	1967.4
22.5°	1866.4	1876.9	1891.6	1925.3	1931.6
25°	1820.1	1828.5	1849.6	1885.3	1895.8
27.5°	1763.3	1775.9	1803.3	1841.1	1855.9
30°	1706.5	1719.1	1752.8	1797.0	1809.6
32.5°	1645.5	1664.4	1700.2	1746.5	1761.2
35°	1582.3	1599.2	1641.2	1696.0	1712.8
37.5°	1512.9	1536.0	1582.3	1641.2	1662.3
40°	1445.6	1470.8	1523.4	1586.5	1611.8
42.5°	1378.2	1403.5	1462.4	1533.9	1559.2
45°	1302.5	1329.8	1397.2	1472.9	1500.3
47.5°	1226.7	1260.4	1334.0	1414.0	1443.5
50°	1148.9	1186.7	1266.7	1350.9	1384.5
52.5°	1079.4	1115.2	1199.4	1289.9	1321.4
55°	999.5	1039.5	1132.0	1224.6	1260.4
57.5°	917.4	961.6	1060.5	1161.5	1197.3
60°	837.5	885.9	995.3	1096.3	1136.2
62.5°	759.6	808.0	921.6	1026.8	1066.8
65°	675.4	732.2	850.1	957.4	995.3
67.5°	595.5	656.5	780.6	885.9	923.7
70°	517.6	576.5	709.1	812.2	850.1
72.5°	433.5	500.8	633.4	740.7	780.6
75°	349.3	429.2	559.7	664.9	702.8
77.5°	271.4	353.5	484.0	570.2	589.2
80°	199.9	284.1	397.7	458.7	481.9
82.5°	128.4	212.5	303.0	347.2	366.1
85°	71.5	141.0	197.8	223.0	231.5
87.5°	29.5	61.0	80.0	90.5	90.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)