

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: P314072

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-CA125-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: P314072  
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: 24FCZ2-60HE-UNV-L83050-CA125-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC 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**

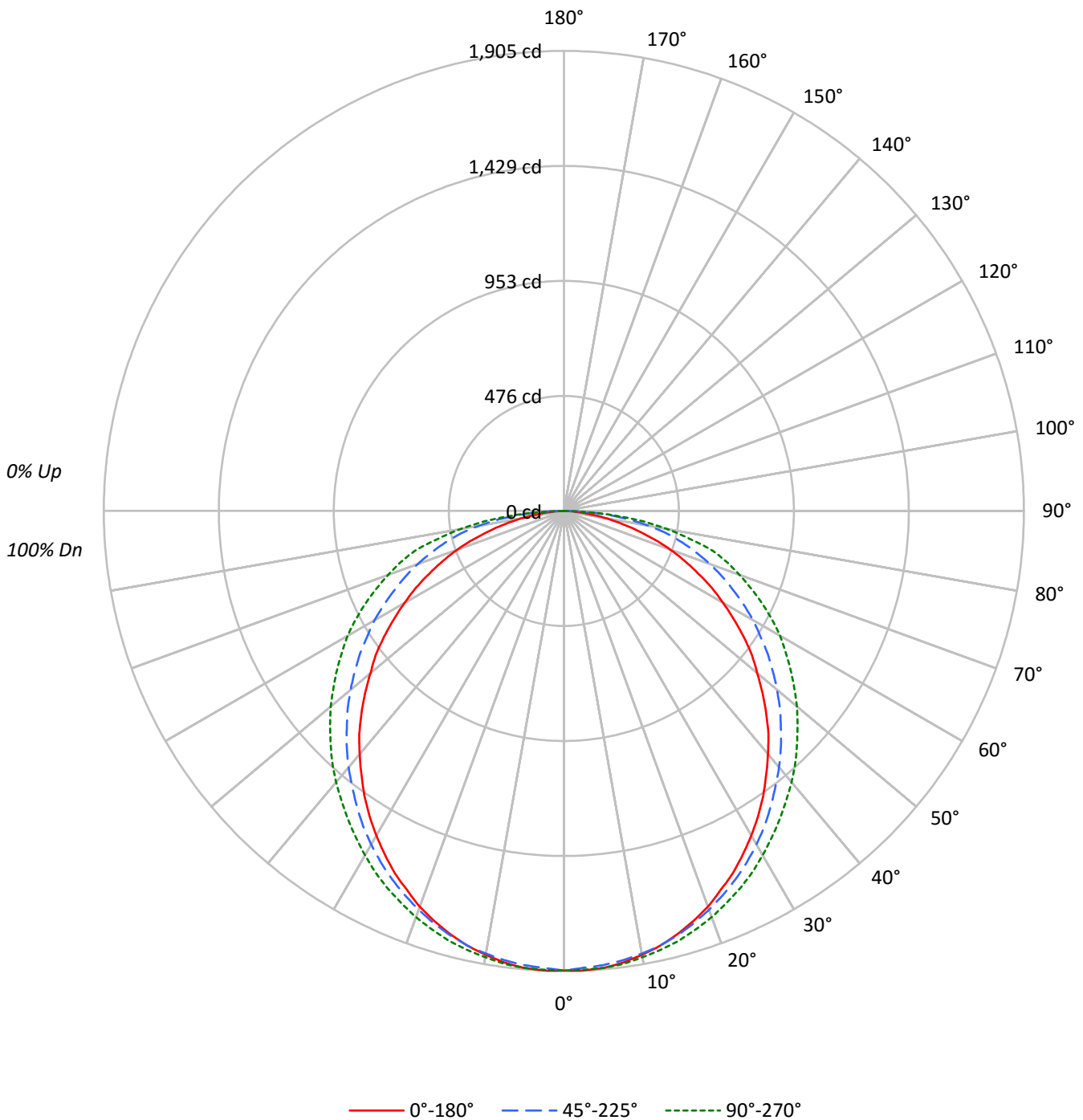
Lumens per Lamp: N/A  
Luminaire Lumens: 5770.0 lumens  
Efficiency: N/A  
Efficacy: 118.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 48.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
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



TEST NUMBER: P314072

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-CA125-W2A-U-4000K

### Luminous Intensity Polar Plot





TEST NUMBER: P314072

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-CA125-W2A-U-4000K

**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°	2560	2560	2560
5°	2565	2549	2565
10°	2550	2542	2563
15°	2528	2533	2565
20°	2497	2516	2563
25°	2458	2498	2561
30°	2412	2478	2558
35°	2365	2453	2560
40°	2310	2434	2576
45°	2255	2419	2597
50°	2188	2412	2637
55°	2133	2416	2690
60°	2050	2437	2782
65°	1956	2462	2883
70°	1852	2538	3043
75°	1652	2647	3324
80°	1409	2803	3397
85°	1005	2779	3251



TEST NUMBER: P314072

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-CA125-W2A-U-4000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	180.1	3.1
10°-20°	514.9	8.9
20°-30°	777.8	13.5
30°-40°	937.4	16.2
40°-50°	984.1	17.1
50°-60°	920.7	16.0
60°-70°	760.3	13.2
70°-80°	518.1	9.0
80°-90°	176.7	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°	1472.8	25.5
0°-40°	2410.2	41.8
0°-60°	4314.9	74.8
0°-90°	5770.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5770.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1903	1903	1903	1903	1903	
5°	1899	1897	1888	1899	1899	180
15°	1815	1817	1819	1838	1842	512
25°	1656	1664	1683	1715	1725	762
35°	1440	1455	1493	1543	1558	900
45°	1185	1210	1271	1340	1365	914
55°	909	946	1030	1114	1147	812
65°	614	666	773	871	906	610
75°	318	390	509	605	639	339
85°	65	128	180	203	211	81
90°	0	0	0	0	0	



TEST NUMBER: P314072

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-CA125-W2A-U-4000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1902.9	1902.9	1902.9	1902.9	1902.9
2.5°	1904.8	1902.9	1893.3	1902.9	1901.0
5°	1899.1	1897.2	1887.6	1899.1	1899.1
7.5°	1885.7	1885.7	1876.1	1889.5	1891.4
10°	1866.5	1866.5	1860.8	1876.1	1876.1
12.5°	1843.5	1843.5	1843.5	1858.9	1860.8
15°	1814.8	1816.7	1818.7	1837.8	1841.6
17.5°	1780.4	1784.2	1789.9	1812.9	1816.7
20°	1744.0	1747.8	1757.4	1784.2	1789.9
22.5°	1698.1	1707.6	1721.0	1751.7	1757.4
25°	1655.9	1663.6	1682.7	1715.3	1724.9
27.5°	1604.3	1615.7	1640.6	1675.1	1688.5
30°	1552.6	1564.1	1594.7	1634.9	1646.4
32.5°	1497.0	1514.3	1546.8	1588.9	1602.3
35°	1439.6	1454.9	1493.2	1543.0	1558.3
37.5°	1376.4	1397.5	1439.6	1493.2	1512.4
40°	1315.2	1338.2	1386.0	1443.4	1466.4
42.5°	1253.9	1276.9	1330.5	1395.6	1418.6
45°	1185.0	1209.9	1271.1	1340.1	1365.0
47.5°	1116.1	1146.7	1213.7	1286.5	1313.3
50°	1045.3	1079.7	1152.5	1229.0	1259.7
52.5°	982.1	1014.6	1091.2	1173.5	1202.2
55°	909.3	945.7	1029.9	1114.2	1146.7
57.5°	834.7	874.9	964.8	1056.7	1089.3
60°	761.9	806.0	905.5	997.4	1033.8
62.5°	691.1	735.1	838.5	934.2	970.6
65°	614.5	666.2	773.4	871.0	905.5
67.5°	541.8	597.3	710.2	806.0	840.4
70°	470.9	524.5	645.1	739.0	773.4
72.5°	394.4	455.6	576.2	673.9	710.2
75°	317.8	390.5	509.2	604.9	639.4
77.5°	247.0	321.6	440.3	518.8	536.0
80°	181.9	258.4	361.8	417.3	438.4
82.5°	116.8	193.4	275.7	315.9	333.1
85°	65.1	128.3	180.0	202.9	210.6
87.5°	26.8	55.5	72.7	82.3	82.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)