

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: P314105

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-CP187-W2A-U-3000K**

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: P314105  
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: 24FCZ2-65HE-UNV-L83050-CP187-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 3000K 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**

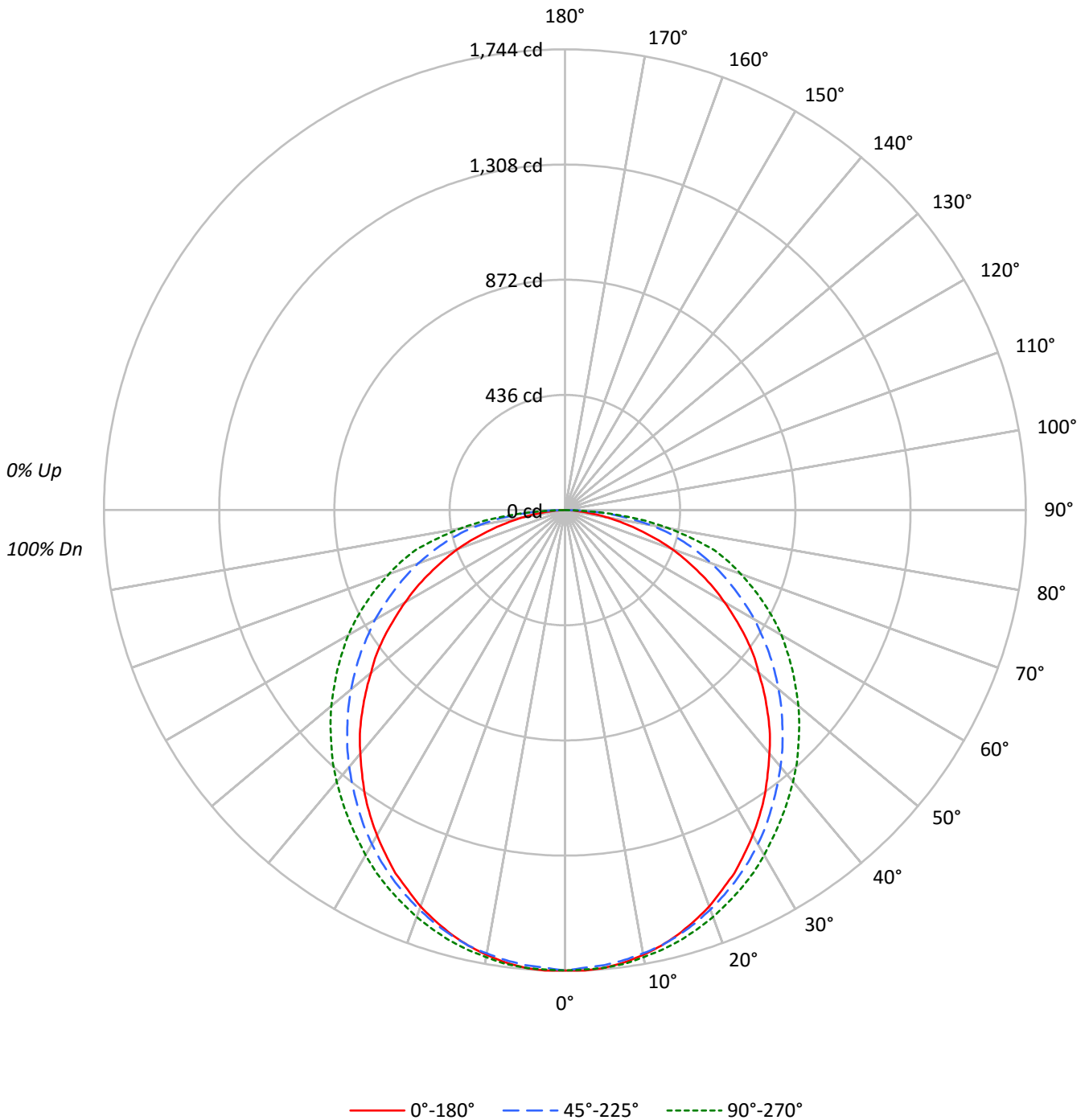
Lumens per Lamp: N/A  
Luminaire Lumens: 5284.0 lumens  
Efficiency: N/A  
Efficacy: 100.6 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 52.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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: P314105

CATALOG NUMBER: 24FCZ2-65HE-UNV-L83050-CP187-W2A-U-3000K

### Luminous Intensity Polar Plot





TEST NUMBER: P314105

CATALOG NUMBER: 24FCZ2-65HE-UNV-L83050-CP187-W2A-U-3000K

**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°	2345	2345	2345
5°	2349	2335	2349
10°	2335	2328	2347
15°	2315	2320	2349
20°	2287	2304	2347
25°	2251	2288	2345
30°	2209	2269	2342
35°	2166	2246	2344
40°	2115	2229	2359
45°	2065	2215	2379
50°	2004	2209	2415
55°	1953	2213	2463
60°	1877	2231	2548
65°	1792	2255	2640
70°	1697	2324	2786
75°	1513	2424	3044
80°	1290	2567	3111
85°	920	2544	2976



TEST NUMBER: P314105

CATALOG NUMBER: 24FCZ2-65HE-UNV-L83050-CP187-W2A-U-3000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	164.9	3.1
10°-20°	471.6	8.9
20°-30°	712.3	13.5
30°-40°	858.4	16.2
40°-50°	901.2	17.1
50°-60°	843.1	16.0
60°-70°	696.3	13.2
70°-80°	474.4	9.0
80°-90°	161.8	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°	1348.7	25.5
0°-40°	2207.2	41.8
0°-60°	3951.5	74.8
0°-90°	5284.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5284.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1743	1743	1743	1743	1743	
5°	1739	1737	1729	1739	1739	165
15°	1662	1664	1666	1683	1686	468
25°	1516	1524	1541	1571	1580	698
35°	1318	1332	1367	1413	1427	824
45°	1085	1108	1164	1227	1250	837
55°	833	866	943	1020	1050	743
65°	563	610	708	798	829	558
75°	291	358	466	554	586	310
85°	60	118	165	186	193	75
90°	0	0	0	0	0	



TEST NUMBER: P314105

CATALOG NUMBER: 24FCZ2-65HE-UNV-L83050-CP187-W2A-U-3000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1742.6	1742.6	1742.6	1742.6	1742.6
2.5°	1744.4	1742.6	1733.9	1742.6	1740.9
5°	1739.1	1737.4	1728.6	1739.1	1739.1
7.5°	1726.8	1726.8	1718.1	1730.3	1732.1
10°	1709.3	1709.3	1704.0	1718.1	1718.1
12.5°	1688.3	1688.3	1688.3	1702.3	1704.0
15°	1662.0	1663.7	1665.5	1683.0	1686.5
17.5°	1630.4	1633.9	1639.2	1660.2	1663.7
20°	1597.1	1600.6	1609.4	1633.9	1639.2
22.5°	1555.0	1563.8	1576.1	1604.1	1609.4
25°	1516.5	1523.5	1541.0	1570.8	1579.6
27.5°	1469.1	1479.6	1502.4	1534.0	1546.3
30°	1421.8	1432.3	1460.4	1497.2	1507.7
32.5°	1371.0	1386.7	1416.5	1455.1	1467.4
35°	1318.4	1332.4	1367.4	1413.0	1427.1
37.5°	1260.5	1279.8	1318.4	1367.4	1385.0
40°	1204.4	1225.4	1269.3	1321.9	1342.9
42.5°	1148.3	1169.3	1218.4	1278.0	1299.1
45°	1085.2	1108.0	1164.1	1227.2	1250.0
47.5°	1022.1	1050.1	1111.5	1178.1	1202.7
50°	957.2	988.8	1055.4	1125.5	1153.6
52.5°	899.4	929.2	999.3	1074.7	1101.0
55°	832.7	866.0	943.2	1020.3	1050.1
57.5°	764.4	801.2	883.6	967.7	997.5
60°	697.7	738.1	829.2	913.4	946.7
62.5°	632.9	673.2	767.9	855.5	888.8
65°	562.8	610.1	708.3	797.7	829.2
67.5°	496.1	547.0	650.4	738.1	769.6
70°	431.3	480.4	590.8	676.7	708.3
72.5°	361.1	417.2	527.7	617.1	650.4
75°	291.0	357.6	466.3	554.0	585.5
77.5°	226.2	294.5	403.2	475.1	490.9
80°	166.5	236.7	331.3	382.2	401.5
82.5°	106.9	177.1	252.5	289.3	305.0
85°	59.6	117.5	164.8	185.8	192.8
87.5°	24.5	50.8	66.6	75.4	75.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)