

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: P314081

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-CP187-W2A-U-3500K**

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: P314081  
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-CP187-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 3500K 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**

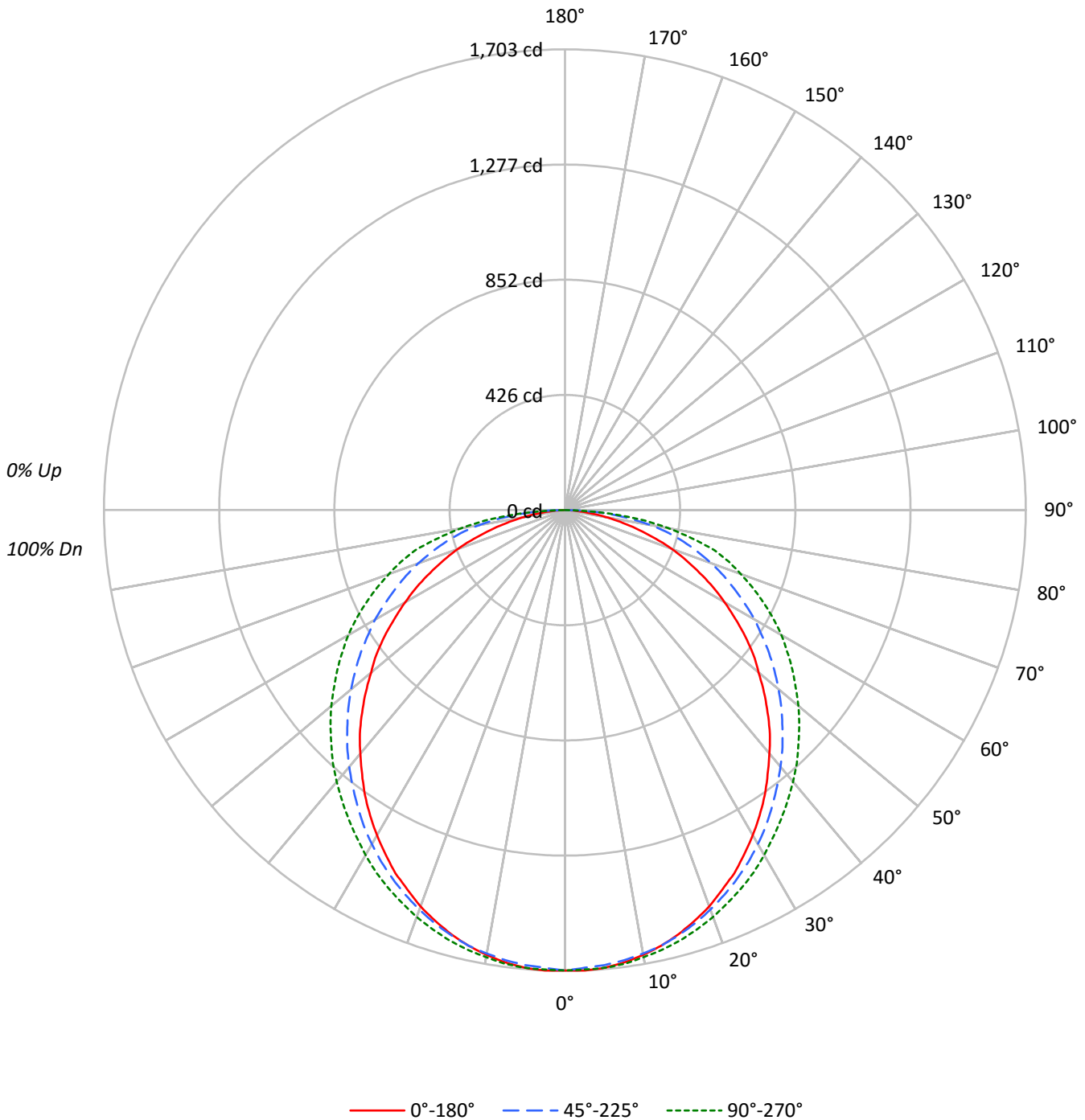
Lumens per Lamp: N/A  
Luminaire Lumens: 5160.0 lumens  
Efficiency: N/A  
Efficacy: 108.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.6  
Input Voltage (V): NR  
Input Current (A<sub>in</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



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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°	2290	2290	2290
5°	2294	2280	2294
10°	2281	2274	2292
15°	2261	2265	2294
20°	2233	2250	2292
25°	2199	2234	2290
30°	2157	2216	2287
35°	2115	2193	2289
40°	2066	2177	2303
45°	2016	2163	2323
50°	1957	2157	2358
55°	1908	2161	2406
60°	1834	2179	2488
65°	1750	2202	2578
70°	1657	2269	2721
75°	1477	2367	2973
80°	1260	2507	3037
85°	898	2484	2907



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	161.0	3.1
10°-20°	460.5	8.9
20°-30°	695.5	13.5
30°-40°	838.3	16.2
40°-50°	880.0	17.1
50°-60°	823.3	16.0
60°-70°	679.9	13.2
70°-80°	463.3	9.0
80°-90°	158.0	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°	1317.1	25.5
0°-40°	2155.4	41.8
0°-60°	3858.8	74.8
0°-90°	5160.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5160.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1702	1702	1702	1702	1702	
5°	1698	1697	1688	1698	1698	161
15°	1623	1625	1626	1644	1647	457
25°	1481	1488	1505	1534	1542	681
35°	1287	1301	1335	1380	1394	805
45°	1060	1082	1137	1198	1221	817
55°	813	846	921	996	1026	726
65°	550	596	692	779	810	545
75°	284	349	455	541	572	303
85°	58	115	161	182	188	73
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1701.7	1701.7	1701.7	1701.7	1701.7
2.5°	1703.4	1701.7	1693.2	1701.7	1700.0
5°	1698.3	1696.6	1688.0	1698.3	1698.3
7.5°	1686.3	1686.3	1677.8	1689.7	1691.5
10°	1669.2	1669.2	1664.1	1677.8	1677.8
12.5°	1648.7	1648.7	1648.7	1662.3	1664.1
15°	1623.0	1624.7	1626.4	1643.5	1646.9
17.5°	1592.2	1595.6	1600.7	1621.3	1624.7
20°	1559.6	1563.1	1571.6	1595.6	1600.7
22.5°	1518.5	1527.1	1539.1	1566.5	1571.6
25°	1480.9	1487.7	1504.8	1533.9	1542.5
27.5°	1434.7	1444.9	1467.2	1498.0	1510.0
30°	1388.4	1398.7	1426.1	1462.0	1472.3
32.5°	1338.8	1354.2	1383.3	1421.0	1432.9
35°	1287.4	1301.1	1335.4	1379.9	1393.6
37.5°	1230.9	1249.8	1287.4	1335.4	1352.5
40°	1176.1	1196.7	1239.5	1290.8	1311.4
42.5°	1121.4	1141.9	1189.8	1248.0	1268.6
45°	1059.7	1082.0	1136.8	1198.4	1220.7
47.5°	998.1	1025.5	1085.4	1150.5	1174.4
50°	934.7	965.6	1030.6	1099.1	1126.5
52.5°	878.3	907.4	975.8	1049.5	1075.1
55°	813.2	845.7	921.1	996.4	1025.5
57.5°	746.4	782.4	862.8	945.0	974.1
60°	681.4	720.7	809.8	891.9	924.5
62.5°	618.0	657.4	749.9	835.5	868.0
65°	549.6	595.8	691.6	779.0	809.8
67.5°	484.5	534.1	635.2	720.7	751.6
70°	421.2	469.1	576.9	660.8	691.6
72.5°	352.7	407.5	515.3	602.6	635.2
75°	284.2	349.2	455.4	541.0	571.8
77.5°	220.8	287.6	393.8	464.0	479.4
80°	162.6	231.1	323.6	373.2	392.0
82.5°	104.4	172.9	246.5	282.5	297.9
85°	58.2	114.7	160.9	181.5	188.3
87.5°	24.0	49.6	65.1	73.6	73.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)