

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: P311148

Luminaire Tested: **24FCZ2-75HE-UNV-L82765-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: P311148  
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: 24FCZ2-75HE-UNV-L82765-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**

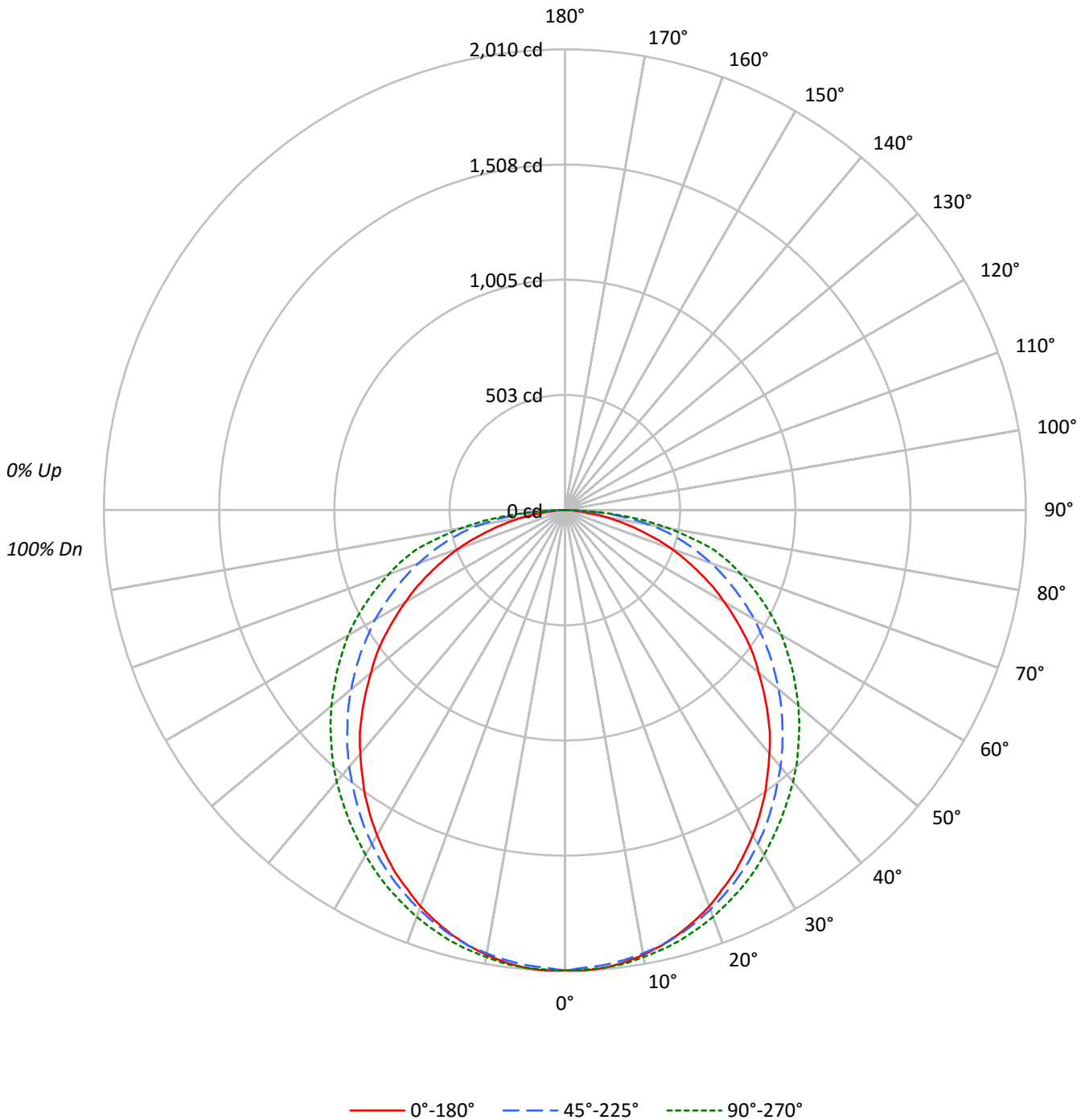
Lumens per Lamp: N/A  
Luminaire Lumens: 6089.0 lumens  
Efficiency: N/A  
Efficacy: 97.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 62.4  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2702	2702	2702
5°	2707	2690	2707
10°	2691	2683	2705
15°	2668	2673	2707
20°	2635	2655	2705
25°	2594	2636	2702
30°	2545	2614	2699
35°	2495	2588	2701
40°	2438	2569	2718
45°	2379	2552	2741
50°	2309	2546	2783
55°	2251	2550	2839
60°	2164	2571	2936
65°	2065	2599	3042
70°	1955	2678	3211
75°	1744	2794	3508
80°	1487	2958	3584
85°	1061	2932	3430



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	190.0	3.1
10°-20°	543.4	8.9
20°-30°	820.8	13.5
30°-40°	989.2	16.2
40°-50°	1038.5	17.1
50°-60°	971.6	16.0
60°-70°	802.3	13.2
70°-80°	546.7	9.0
80°-90°	186.5	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°	1554.2	25.5
0°-40°	2543.4	41.8
0°-60°	4553.5	74.8
0°-90°	6089.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6089.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2008	2008	2008	2008	2008	
5°	2004	2002	1992	2004	2004	190
15°	1915	1917	1919	1939	1944	540
25°	1748	1756	1776	1810	1820	804
35°	1519	1535	1576	1628	1644	949
45°	1250	1277	1341	1414	1440	964
55°	960	998	1087	1176	1210	856
65°	648	703	816	919	956	643
75°	335	412	537	638	675	358
85°	69	135	190	214	222	86
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2008.1	2008.1	2008.1	2008.1	2008.1
2.5°	2010.1	2008.1	1998.0	2008.1	2006.1
5°	2004.1	2002.0	1991.9	2004.1	2004.1
7.5°	1989.9	1989.9	1979.8	1994.0	1996.0
10°	1969.7	1969.7	1963.7	1979.8	1979.8
12.5°	1945.5	1945.5	1945.5	1961.6	1963.7
15°	1915.2	1917.2	1919.2	1939.4	1943.5
17.5°	1878.8	1882.8	1888.9	1913.1	1917.2
20°	1840.4	1844.5	1854.6	1882.8	1888.9
22.5°	1791.9	1802.0	1816.2	1848.5	1854.6
25°	1747.5	1755.6	1775.8	1810.1	1820.2
27.5°	1692.9	1705.1	1731.3	1767.7	1781.8
30°	1638.4	1650.5	1682.8	1725.3	1737.4
32.5°	1579.8	1598.0	1632.3	1676.8	1690.9
35°	1519.2	1535.4	1575.8	1628.3	1644.5
37.5°	1452.5	1474.8	1519.2	1575.8	1596.0
40°	1387.9	1412.1	1462.6	1523.2	1547.5
42.5°	1323.2	1347.5	1404.1	1472.7	1497.0
45°	1250.5	1276.8	1341.4	1414.2	1440.4
47.5°	1177.8	1210.1	1280.8	1357.6	1385.9
50°	1103.0	1139.4	1216.2	1297.0	1329.3
52.5°	1036.4	1070.7	1151.5	1238.4	1268.7
55°	959.6	998.0	1086.9	1175.8	1210.1
57.5°	880.8	923.2	1018.2	1115.2	1149.5
60°	804.0	850.5	955.6	1052.5	1090.9
62.5°	729.3	775.8	884.9	985.9	1024.3
65°	648.5	703.0	816.2	919.2	955.6
67.5°	571.7	630.3	749.5	850.5	886.9
70°	497.0	553.5	680.8	779.8	816.2
72.5°	416.2	480.8	608.1	711.1	749.5
75°	335.4	412.1	537.4	638.4	674.8
77.5°	260.6	339.4	464.7	547.5	565.7
80°	191.9	272.7	381.8	440.4	462.6
82.5°	123.2	204.0	290.9	333.3	351.5
85°	68.7	135.4	189.9	214.1	222.2
87.5°	28.3	58.6	76.8	86.9	86.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)