

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: P311149

Luminaire Tested: **24FCZ2-75HE-UNV-L82765-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: P311149  
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-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**

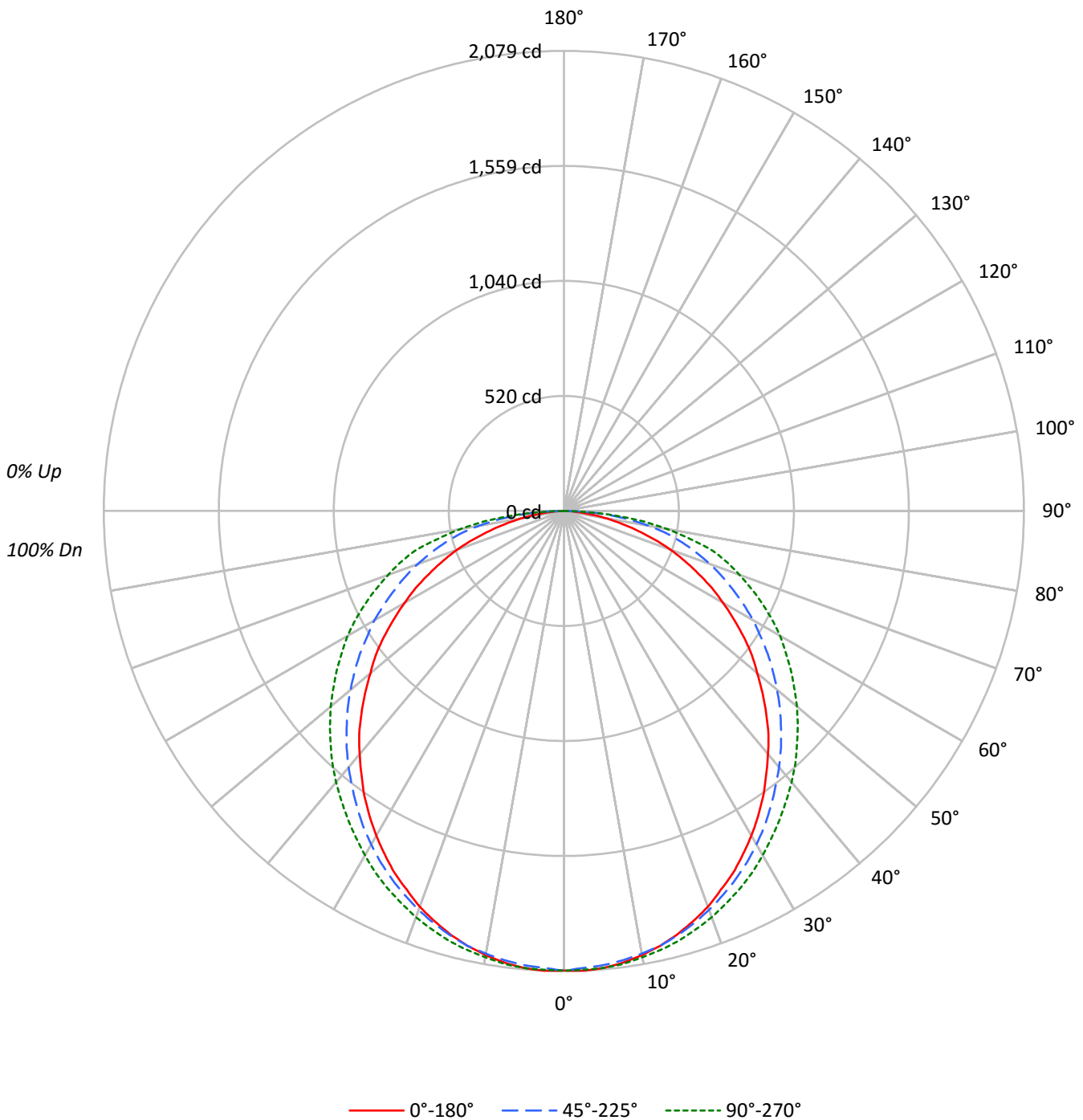
Lumens per Lamp: N/A  
Luminaire Lumens: 6298.0 lumens  
Efficiency: N/A  
Efficacy: 99.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 63.1  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2795	2795	2795
5°	2800	2783	2800
10°	2783	2775	2798
15°	2759	2765	2800
20°	2726	2747	2797
25°	2683	2727	2795
30°	2633	2704	2792
35°	2581	2677	2794
40°	2521	2657	2811
45°	2461	2640	2835
50°	2388	2633	2878
55°	2328	2637	2936
60°	2238	2660	3037
65°	2135	2688	3147
70°	2022	2770	3321
75°	1803	2889	3628
80°	1538	3060	3708
85°	1096	3032	3549



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	196.6	3.1
10°-20°	562.1	8.9
20°-30°	848.9	13.5
30°-40°	1023.2	16.2
40°-50°	1074.1	17.1
50°-60°	1004.9	16.0
60°-70°	829.9	13.2
70°-80°	565.5	9.0
80°-90°	192.9	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°	1607.6	25.5
0°-40°	2630.7	41.8
0°-60°	4709.8	74.8
0°-90°	6298.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6298.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2077	2077	2077	2077	2077	
5°	2073	2071	2060	2073	2073	197
15°	1981	1983	1985	2006	2010	558
25°	1808	1816	1837	1872	1883	832
35°	1571	1588	1630	1684	1701	982
45°	1293	1321	1388	1463	1490	998
55°	992	1032	1124	1216	1252	886
65°	671	727	844	951	988	665
75°	347	426	556	660	698	370
85°	71	140	196	222	230	89
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2077.0	2077.0	2077.0	2077.0	2077.0
2.5°	2079.1	2077.0	2066.6	2077.0	2074.9
5°	2072.8	2070.8	2060.3	2072.8	2072.8
7.5°	2058.2	2058.2	2047.8	2062.4	2064.5
10°	2037.3	2037.3	2031.1	2047.8	2047.8
12.5°	2012.2	2012.2	2012.2	2029.0	2031.1
15°	1980.9	1983.0	1985.1	2006.0	2010.2
17.5°	1943.3	1947.5	1953.7	1978.8	1983.0
20°	1903.6	1907.8	1918.2	1947.5	1953.7
22.5°	1853.4	1863.9	1878.5	1912.0	1918.2
25°	1807.5	1815.8	1836.7	1872.2	1882.7
27.5°	1751.1	1763.6	1790.8	1828.4	1843.0
30°	1694.6	1707.2	1740.6	1784.5	1797.0
32.5°	1634.0	1652.8	1688.4	1734.3	1749.0
35°	1571.4	1588.1	1629.9	1684.2	1700.9
37.5°	1502.4	1525.4	1571.4	1629.9	1650.8
40°	1435.5	1460.6	1512.8	1575.5	1600.6
42.5°	1368.7	1393.7	1452.2	1523.3	1548.4
45°	1293.4	1320.6	1387.5	1462.7	1489.9
47.5°	1218.2	1251.6	1324.8	1404.2	1433.4
50°	1140.9	1178.5	1257.9	1341.5	1374.9
52.5°	1071.9	1107.5	1191.1	1280.9	1312.2
55°	992.5	1032.2	1124.2	1216.1	1251.6
57.5°	911.0	954.9	1053.1	1153.4	1189.0
60°	831.6	879.7	988.4	1088.7	1128.4
62.5°	754.3	802.4	915.2	1019.7	1059.4
65°	670.7	727.2	844.2	950.8	988.4
67.5°	591.3	651.9	775.2	879.7	917.3
70°	514.0	572.5	704.2	806.6	844.2
72.5°	430.4	497.3	629.0	735.5	775.2
75°	346.9	426.3	555.8	660.3	697.9
77.5°	269.6	351.0	480.6	566.3	585.1
80°	198.5	282.1	394.9	455.5	478.5
82.5°	127.5	211.0	300.9	344.8	363.6
85°	71.0	140.0	196.4	221.5	229.9
87.5°	29.3	60.6	79.4	89.9	89.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)