

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: P311674

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CA125-W2A-U-5000K**

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: P311674  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
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-L82765-S-CA125-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET  
Light Source: (336) 5000K 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**

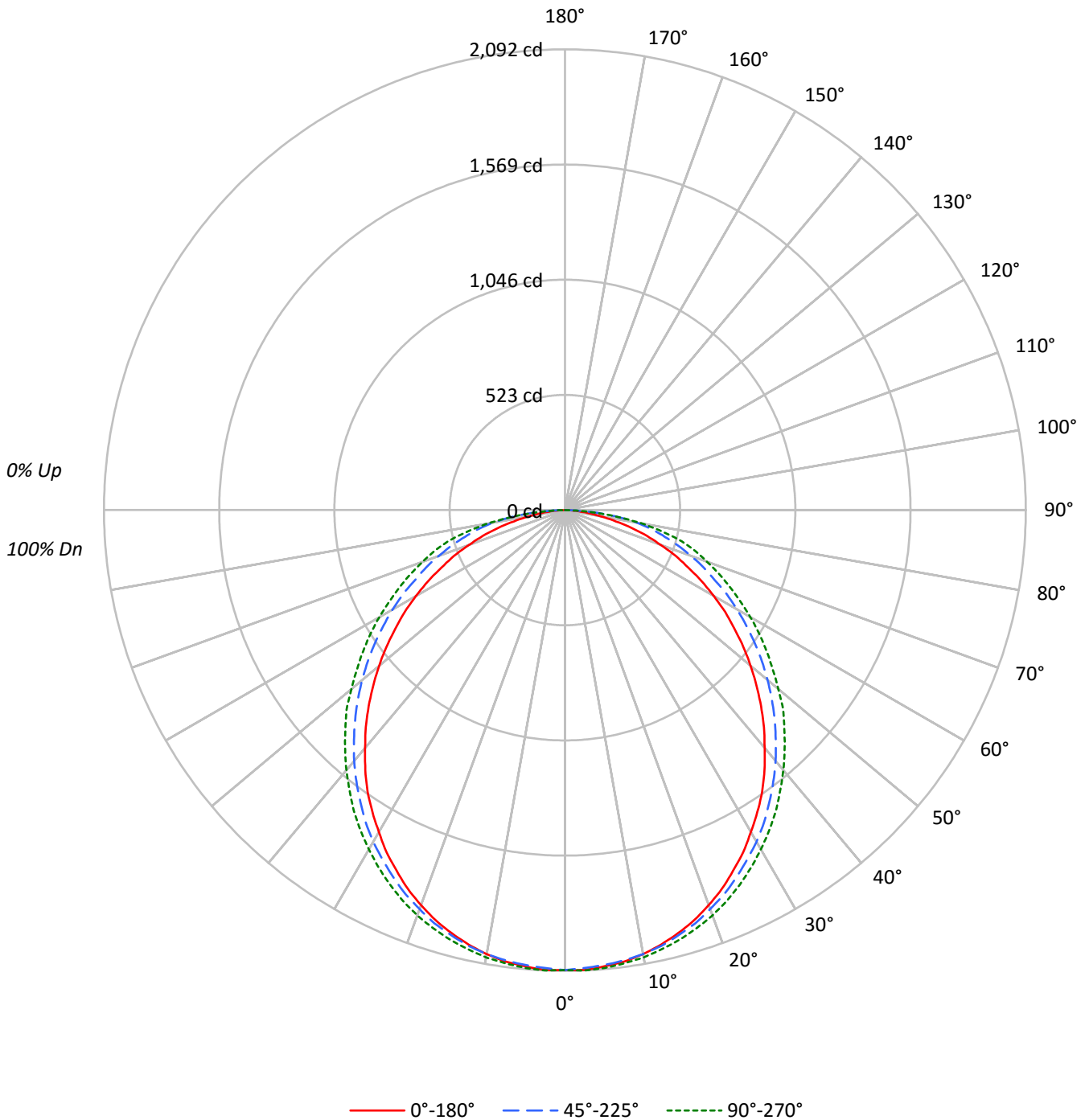
Lumens per Lamp: N/A  
Luminaire Lumens: 5945.0 lumens  
Efficiency: N/A  
Efficacy: 122.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 48.7  
Input Voltage (V): NR  
Input Current (A<sub>in</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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2810	2810	2810
5°	2808	2800	2818
10°	2797	2797	2817
15°	2770	2783	2812
20°	2734	2761	2804
25°	2683	2733	2787
30°	2623	2702	2764
35°	2565	2658	2742
40°	2478	2614	2710
45°	2397	2562	2680
50°	2304	2514	2648
55°	2202	2467	2622
60°	2099	2429	2617
65°	1966	2387	2633
70°	1820	2399	2704
75°	1630	2444	2857
80°	1317	2590	2795
85°	991	2274	2215



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	197.7	3.3
10°-20°	565.0	9.5
20°-30°	849.3	14.3
30°-40°	1011.6	17.0
40°-50°	1035.3	17.4
50°-60°	932.1	15.7
60°-70°	732.0	12.3
70°-80°	475.1	8.0
80°-90°	146.9	2.5
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°	1612.0	27.1
0°-40°	2623.6	44.1
0°-60°	4591.0	77.2
0°-90°	5945.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5945.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2088	2088	2088	2088	2088	
5°	2079	2083	2073	2085	2087	198
15°	1988	1994	1998	2015	2019	561
25°	1807	1822	1841	1871	1877	833
35°	1562	1581	1618	1658	1669	974
45°	1260	1290	1346	1397	1409	971
55°	938	980	1052	1107	1118	841
65°	618	665	750	812	827	615
75°	314	374	470	534	550	332
85°	64	119	147	144	144	78
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2088.5	2088.5	2088.5	2088.5	2088.5
2.5°	2090.4	2090.4	2081.0	2090.4	2092.3
5°	2079.1	2082.9	2073.4	2084.7	2086.6
7.5°	2067.7	2067.7	2062.1	2073.4	2075.3
10°	2047.0	2048.9	2047.0	2060.2	2062.1
12.5°	2020.5	2024.3	2026.2	2039.4	2041.3
15°	1988.4	1994.1	1997.9	2014.9	2018.6
17.5°	1952.6	1958.2	1967.7	1986.5	1990.3
20°	1909.1	1916.7	1928.0	1952.6	1958.2
22.5°	1861.9	1869.5	1888.4	1911.0	1920.5
25°	1807.2	1822.3	1841.1	1871.4	1877.0
27.5°	1752.4	1765.6	1790.2	1822.3	1829.8
30°	1688.2	1709.0	1739.2	1771.3	1778.8
32.5°	1625.9	1646.6	1682.5	1716.5	1726.0
35°	1561.7	1580.6	1618.3	1658.0	1669.3
37.5°	1488.0	1512.6	1554.1	1593.8	1605.1
40°	1410.6	1440.8	1488.0	1529.6	1542.8
42.5°	1337.0	1369.1	1416.3	1461.6	1476.7
45°	1259.5	1289.7	1346.4	1397.4	1408.7
47.5°	1180.2	1214.2	1274.6	1325.6	1344.5
50°	1100.9	1136.8	1201.0	1253.9	1265.2
52.5°	1021.6	1059.4	1127.3	1184.0	1189.7
55°	938.5	980.1	1051.8	1106.6	1117.9
57.5°	863.0	898.9	976.3	1032.9	1046.1
60°	779.9	819.5	902.6	955.5	972.5
62.5°	700.6	742.1	829.0	881.9	897.0
65°	617.5	664.7	749.7	812.0	827.1
67.5°	545.7	591.1	681.7	742.1	757.2
70°	462.6	513.6	609.9	672.3	687.4
72.5°	390.9	443.8	540.1	600.5	623.2
75°	313.5	373.9	470.2	534.4	549.5
77.5°	237.9	307.8	406.0	455.1	455.1
80°	170.0	243.6	334.2	356.9	360.7
82.5°	111.4	183.2	247.4	245.5	245.5
85°	64.2	119.0	147.3	143.5	143.5
87.5°	24.5	49.1	52.9	52.9	51.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)