

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: P311680

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CP125-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: P311680  
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-CP125-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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**

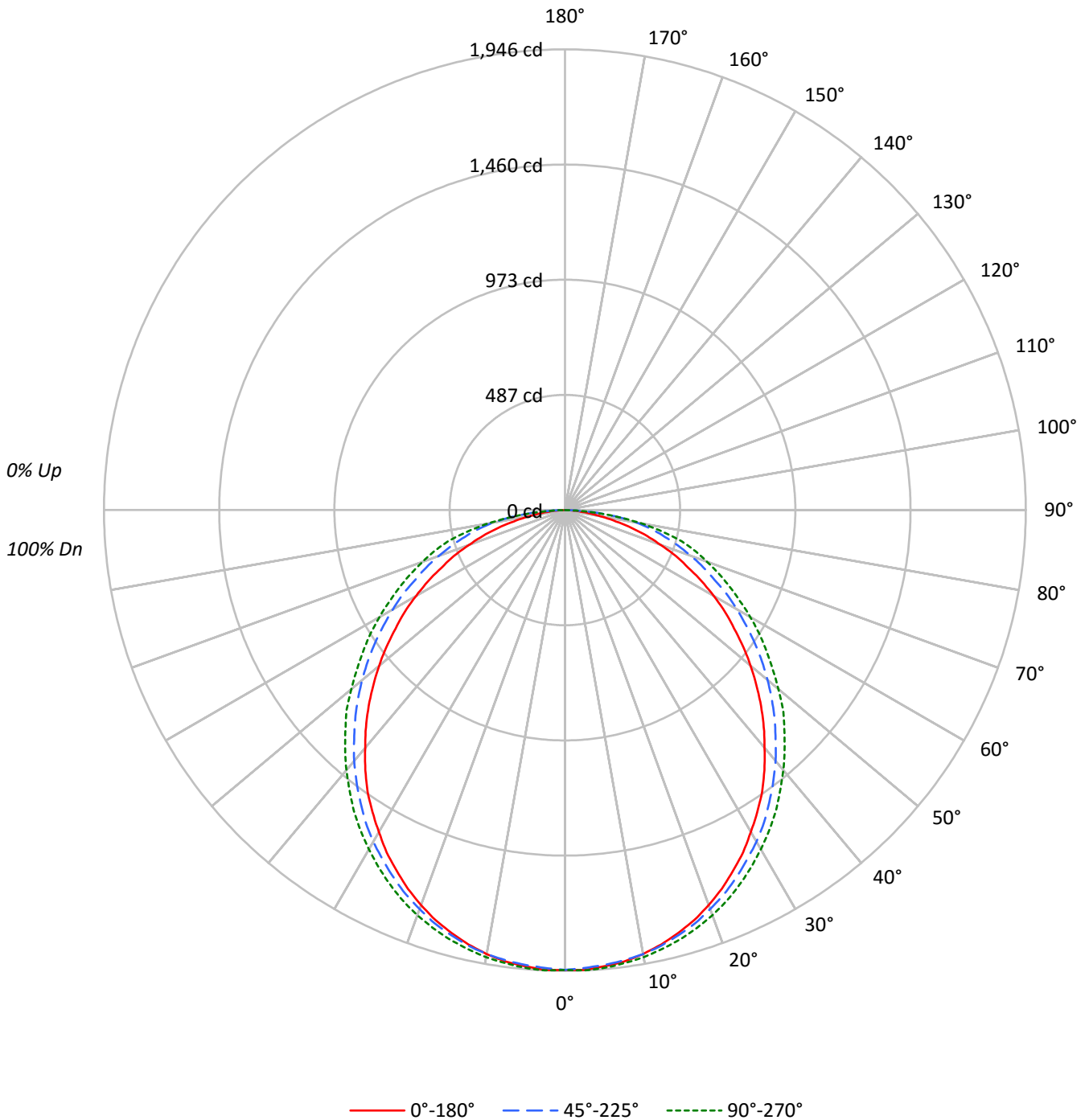
Lumens per Lamp: N/A  
Luminaire Lumens: 5529.0 lumens  
Efficiency: N/A  
Efficacy: 115.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.8  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2613	2613	2613
5°	2612	2604	2621
10°	2601	2601	2620
15°	2576	2588	2615
20°	2542	2567	2608
25°	2495	2542	2592
30°	2439	2513	2570
35°	2386	2472	2550
40°	2304	2431	2520
45°	2229	2383	2493
50°	2143	2338	2463
55°	2047	2295	2439
60°	1952	2259	2434
65°	1828	2220	2449
70°	1693	2232	2515
75°	1515	2273	2657
80°	1225	2409	2599
85°	922	2115	2061



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	183.9	3.3
10°-20°	525.4	9.5
20°-30°	789.8	14.3
30°-40°	940.8	17.0
40°-50°	962.9	17.4
50°-60°	866.9	15.7
60°-70°	680.8	12.3
70°-80°	441.8	8.0
80°-90°	136.7	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°	1499.2	27.1
0°-40°	2440.0	44.1
0°-60°	4269.7	77.2
0°-90°	5529.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5529.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1942	1942	1942	1942	1942	
5°	1934	1937	1928	1939	1941	184
15°	1849	1855	1858	1874	1877	521
25°	1681	1695	1712	1740	1746	774
35°	1452	1470	1505	1542	1552	906
45°	1171	1200	1252	1300	1310	903
55°	873	912	978	1029	1040	782
65°	574	618	697	755	769	572
75°	292	348	437	497	511	308
85°	60	111	137	134	134	72
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1942.4	1942.4	1942.4	1942.4	1942.4
2.5°	1944.1	1944.1	1935.3	1944.1	1945.9
5°	1933.6	1937.1	1928.3	1938.9	1940.6
7.5°	1923.1	1923.1	1917.8	1928.3	1930.1
10°	1903.7	1905.5	1903.7	1916.0	1917.8
12.5°	1879.2	1882.7	1884.4	1896.7	1898.5
15°	1849.3	1854.6	1858.1	1873.9	1877.4
17.5°	1815.9	1821.2	1830.0	1847.5	1851.1
20°	1775.5	1782.6	1793.1	1815.9	1821.2
22.5°	1731.6	1738.7	1756.2	1777.3	1786.1
25°	1680.7	1694.7	1712.3	1740.4	1745.7
27.5°	1629.8	1642.1	1664.9	1694.7	1701.8
30°	1570.1	1589.4	1617.5	1647.3	1654.4
32.5°	1512.1	1531.4	1564.8	1596.4	1605.2
35°	1452.4	1470.0	1505.1	1542.0	1552.5
37.5°	1383.9	1406.7	1445.4	1482.2	1492.8
40°	1311.9	1340.0	1383.9	1422.5	1434.8
42.5°	1243.4	1273.3	1317.2	1359.3	1373.4
45°	1171.4	1199.5	1252.2	1299.6	1310.1
47.5°	1097.6	1129.2	1185.4	1232.9	1250.4
50°	1023.9	1057.2	1117.0	1166.1	1176.7
52.5°	950.1	985.2	1048.5	1101.1	1106.4
55°	872.8	911.5	978.2	1029.1	1039.7
57.5°	802.6	836.0	908.0	960.6	972.9
60°	725.3	762.2	839.5	888.6	904.5
62.5°	651.6	690.2	771.0	820.2	834.2
65°	574.3	618.2	697.2	755.2	769.2
67.5°	507.5	549.7	634.0	690.2	704.2
70°	430.3	477.7	567.3	625.2	639.3
72.5°	363.5	412.7	502.3	558.5	579.6
75°	291.5	347.7	437.3	497.0	511.1
77.5°	221.3	286.3	377.6	423.2	423.2
80°	158.1	226.6	310.9	331.9	335.4
82.5°	103.6	170.4	230.1	228.3	228.3
85°	59.7	110.6	137.0	133.5	133.5
87.5°	22.8	45.7	49.2	49.2	47.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)