

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: P311087

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CA125-W2A-U-4000K**

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: P311087  
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: 24FCZ2-70HE-UNV-L82765-CA125-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET  
Light Source: (336) 4000K 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**

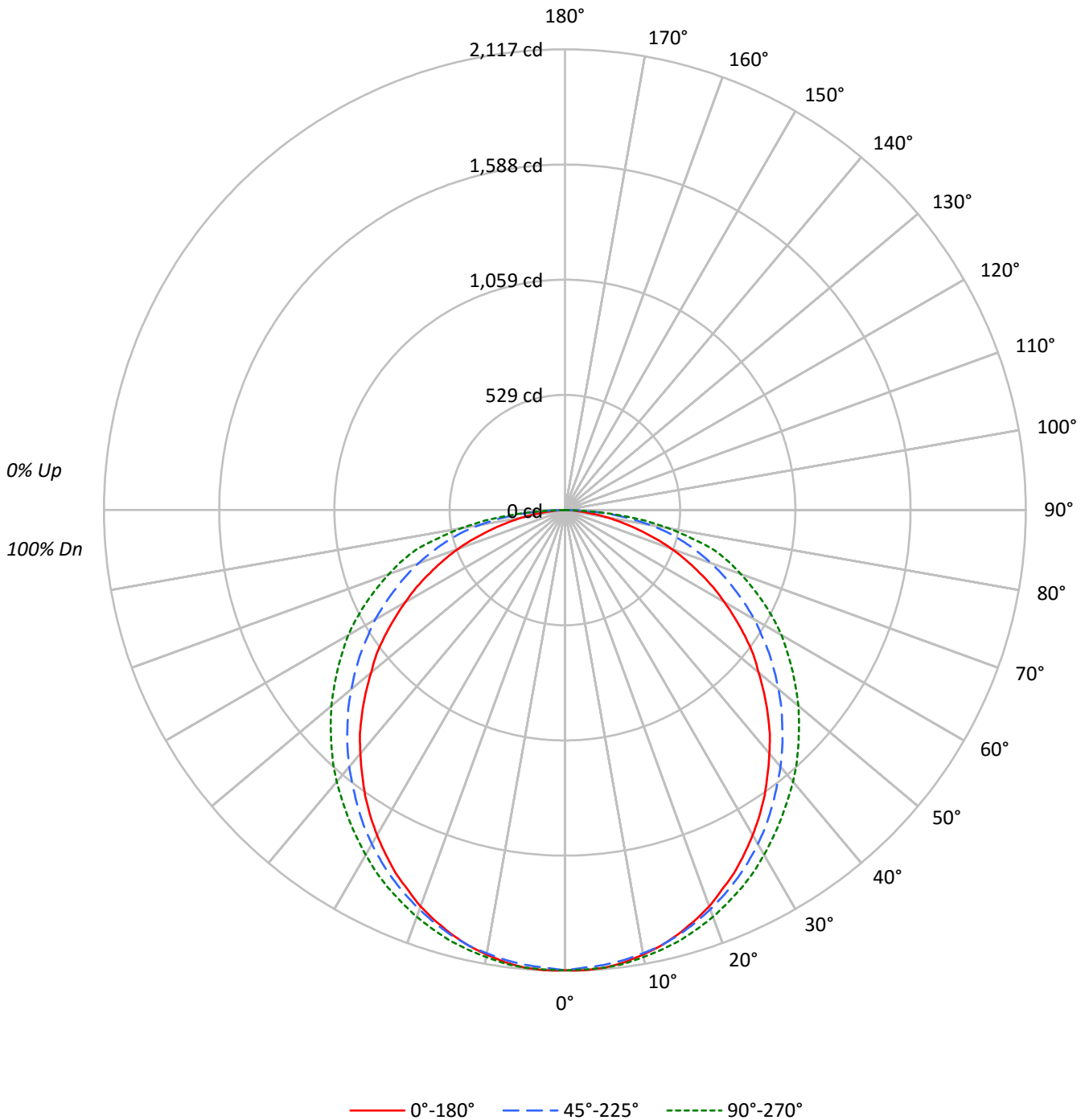
Lumens per Lamp: N/A  
Luminaire Lumens: 6412.0 lumens  
Efficiency: N/A  
Efficacy: 109.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 58.4  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2845	2845	2845
5°	2850	2833	2850
10°	2834	2825	2848
15°	2809	2815	2851
20°	2775	2796	2848
25°	2732	2776	2846
30°	2680	2753	2843
35°	2628	2726	2844
40°	2567	2705	2862
45°	2506	2688	2886
50°	2431	2681	2930
55°	2370	2685	2989
60°	2278	2708	3091
65°	2174	2736	3204
70°	2059	2820	3381
75°	1836	2942	3694
80°	1566	3116	3775
85°	1116	3088	3612



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	200.1	3.1
10°-20°	572.2	8.9
20°-30°	864.3	13.5
30°-40°	1041.7	16.2
40°-50°	1093.6	17.1
50°-60°	1023.1	16.0
60°-70°	844.9	13.2
70°-80°	575.7	9.0
80°-90°	196.4	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°	1636.7	25.5
0°-40°	2678.3	41.8
0°-60°	4795.0	74.8
0°-90°	6412.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6412.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2115	2115	2115	2115	2115	
5°	2110	2108	2098	2110	2110	200
15°	2017	2019	2021	2042	2046	568
25°	1840	1849	1870	1906	1917	847
35°	1600	1617	1659	1715	1732	1000
45°	1317	1344	1413	1489	1517	1016
55°	1010	1051	1144	1238	1274	902
65°	683	740	860	968	1006	677
75°	353	434	566	672	710	377
85°	72	142	200	226	234	91
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2114.6	2114.6	2114.6	2114.6	2114.6
2.5°	2116.7	2114.6	2104.0	2114.6	2112.5
5°	2110.4	2108.2	2097.6	2110.4	2110.4
7.5°	2095.5	2095.5	2084.8	2099.7	2101.9
10°	2074.2	2074.2	2067.8	2084.8	2084.8
12.5°	2048.7	2048.7	2048.7	2065.7	2067.8
15°	2016.8	2018.9	2021.0	2042.3	2046.5
17.5°	1978.5	1982.7	1989.1	2014.6	2018.9
20°	1938.0	1942.3	1952.9	1982.7	1989.1
22.5°	1887.0	1897.6	1912.5	1946.6	1952.9
25°	1840.2	1848.7	1870.0	1906.1	1916.8
27.5°	1782.7	1795.5	1823.2	1861.5	1876.4
30°	1725.3	1738.1	1772.1	1816.8	1829.6
32.5°	1663.6	1682.8	1718.9	1765.7	1780.6
35°	1599.8	1616.8	1659.4	1714.7	1731.7
37.5°	1529.6	1553.0	1599.8	1659.4	1680.6
40°	1461.5	1487.0	1540.2	1604.0	1629.6
42.5°	1393.4	1419.0	1478.5	1550.9	1576.4
45°	1316.9	1344.5	1412.6	1489.2	1516.8
47.5°	1240.3	1274.3	1348.8	1429.6	1459.4
50°	1161.6	1199.8	1280.7	1365.8	1399.8
52.5°	1091.3	1127.5	1212.6	1304.1	1336.0
55°	1010.5	1050.9	1144.5	1238.1	1274.3
57.5°	927.5	972.2	1072.2	1174.3	1210.5
60°	846.7	895.6	1006.3	1108.4	1148.8
62.5°	768.0	816.9	931.8	1038.2	1078.6
65°	682.9	740.3	859.5	968.0	1006.3
67.5°	602.1	663.7	789.3	895.6	933.9
70°	523.3	582.9	716.9	821.2	859.5
72.5°	438.2	506.3	640.3	748.8	789.3
75°	353.1	434.0	565.9	672.3	710.5
77.5°	274.4	357.4	489.3	576.5	595.7
80°	202.1	287.2	402.1	463.8	487.2
82.5°	129.8	214.9	306.3	351.0	370.2
85°	72.3	142.5	200.0	225.5	234.0
87.5°	29.8	61.7	80.8	91.5	91.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)