

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: P311787

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP250-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: P311787
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: 24FCZ2-70HE-UNV-L82765-S-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 5935.0 lumens
Efficiency: N/A
Efficacy: 103.6 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

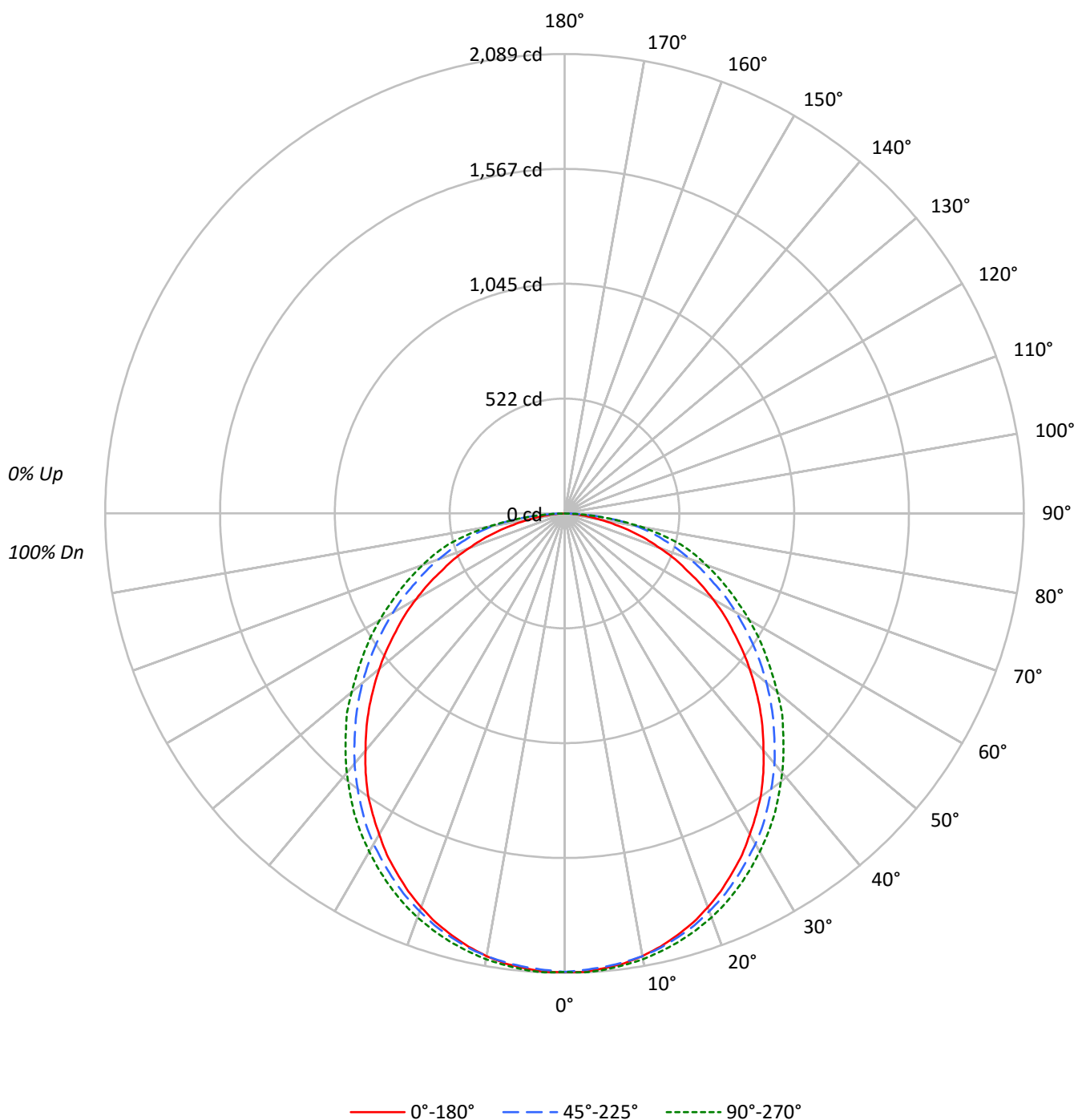
Input Watts (W): 57.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2805	2805	2805
5°	2803	2796	2813
10°	2792	2792	2813
15°	2765	2778	2807
20°	2729	2756	2799
25°	2678	2729	2782
30°	2618	2697	2759
35°	2561	2654	2737
40°	2473	2609	2705
45°	2393	2558	2676
50°	2301	2510	2644
55°	2198	2463	2618
60°	2095	2425	2613
65°	1963	2383	2629
70°	1817	2395	2699
75°	1627	2440	2852
80°	1315	2586	2790
85°	990	2269	2212



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.4	3.3
10°-20°	564.0	9.5
20°-30°	847.8	14.3
30°-40°	1009.9	17.0
40°-50°	1033.6	17.4
50°-60°	930.5	15.7
60°-70°	730.8	12.3
70°-80°	474.3	8.0
80°-90°	146.7	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°	1609.2	27.1
0°-40°	2619.1	44.1
0°-60°	4583.3	77.2
0°-90°	5935.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5935.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2085	2085	2085	2085	2085	
5°	2076	2079	2070	2081	2083	197
15°	1985	1991	1994	2012	2015	560
25°	1804	1819	1838	1868	1874	831
35°	1559	1578	1616	1655	1666	973
45°	1257	1288	1344	1395	1406	969
55°	937	978	1050	1105	1116	840
65°	616	664	748	811	826	614
75°	313	373	469	534	549	331
85°	64	119	147	143	143	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2085.0	2085.0	2085.0	2085.0	2085.0
2.5°	2086.9	2086.9	2077.5	2086.9	2088.8
5°	2075.6	2079.3	2069.9	2081.2	2083.1
7.5°	2064.3	2064.3	2058.6	2069.9	2071.8
10°	2043.5	2045.4	2043.5	2056.7	2058.6
12.5°	2017.1	2020.9	2022.8	2036.0	2037.9
15°	1985.1	1990.7	1994.5	2011.5	2015.3
17.5°	1949.3	1954.9	1964.4	1983.2	1987.0
20°	1905.9	1913.5	1924.8	1949.3	1954.9
22.5°	1858.8	1866.3	1885.2	1907.8	1917.2
25°	1804.1	1819.2	1838.0	1868.2	1873.9
27.5°	1749.4	1762.6	1787.1	1819.2	1826.7
30°	1685.3	1706.1	1736.2	1768.3	1775.8
32.5°	1623.1	1643.9	1679.7	1713.6	1723.1
35°	1559.0	1577.9	1615.6	1655.2	1666.5
37.5°	1485.5	1510.0	1551.5	1591.1	1602.4
40°	1408.2	1438.4	1485.5	1527.0	1540.2
42.5°	1334.7	1366.8	1413.9	1459.1	1474.2
45°	1257.4	1287.6	1344.1	1395.0	1406.3
47.5°	1178.2	1212.2	1272.5	1323.4	1342.2
50°	1099.1	1134.9	1199.0	1251.8	1263.1
52.5°	1019.9	1057.6	1125.4	1182.0	1187.7
55°	936.9	978.4	1050.0	1104.7	1116.0
57.5°	861.5	897.3	974.6	1031.2	1044.4
60°	778.6	818.2	901.1	953.9	970.9
62.5°	699.4	740.9	827.6	880.4	895.5
65°	616.5	663.6	748.4	810.6	825.7
67.5°	544.8	590.1	680.5	740.9	756.0
70°	461.9	512.8	608.9	671.1	686.2
72.5°	390.2	443.0	539.2	599.5	622.1
75°	312.9	373.3	469.4	533.5	548.6
77.5°	237.5	307.3	405.3	454.3	454.3
80°	169.7	243.2	333.7	356.3	360.1
82.5°	111.2	182.9	247.0	245.1	245.1
85°	64.1	118.8	147.0	143.3	143.3
87.5°	24.5	49.0	52.8	52.8	50.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)