

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: P311831

Luminaire Tested: **24FCZ2-75HE-UNV-L82765-S-CP250-W2A-U-2700K**

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: P311831
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: 24FCZ2-75HE-UNV-L82765-S-CP250-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 2700K 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: 6167.0 lumens
Efficiency: N/A
Efficacy: 98.2 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

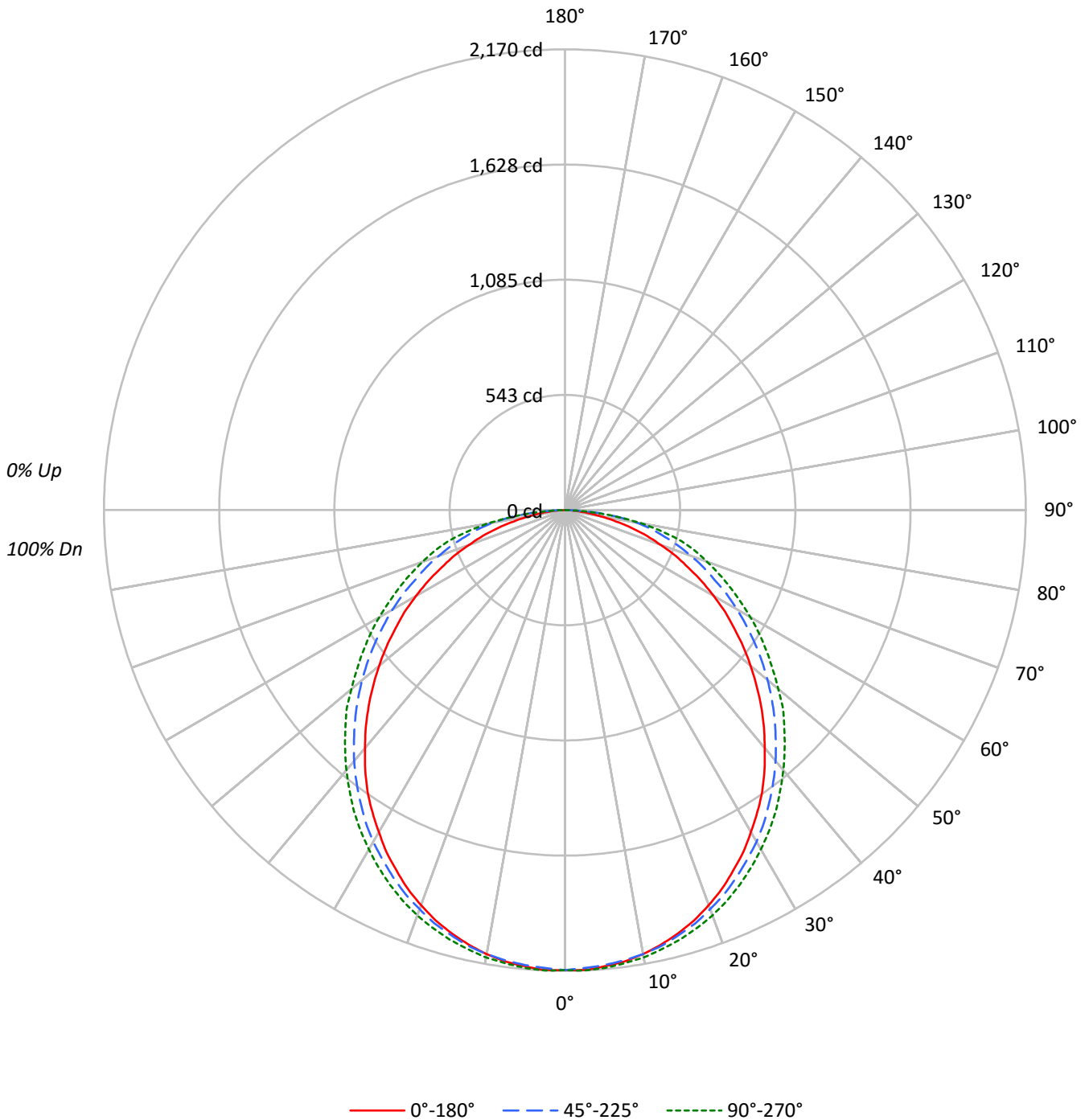
Input Watts (W): 62.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 24FC22-75HE-UNV-L82765-S-CP250-W2A-U-2700K

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°	2915	2915	2915
5°	2913	2905	2923
10°	2901	2901	2923
15°	2873	2887	2917
20°	2836	2864	2908
25°	2783	2835	2891
30°	2721	2803	2867
35°	2661	2757	2844
40°	2570	2711	2811
45°	2486	2658	2781
50°	2390	2608	2747
55°	2284	2559	2720
60°	2177	2520	2715
65°	2039	2476	2732
70°	1888	2489	2805
75°	1691	2536	2963
80°	1366	2686	2899
85°	1028	2359	2299



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.1	3.3
10°-20°	586.1	9.5
20°-30°	881.0	14.3
30°-40°	1049.4	17.0
40°-50°	1074.0	17.4
50°-60°	966.9	15.7
60°-70°	759.3	12.3
70°-80°	492.8	8.0
80°-90°	152.4	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°	1672.1	27.1
0°-40°	2721.5	44.1
0°-60°	4762.4	77.2
0°-90°	6167.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6167.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2166	2166	2166	2166	2166	
5°	2157	2161	2151	2163	2164	205
15°	2063	2069	2072	2090	2094	582
25°	1875	1890	1910	1941	1947	864
35°	1620	1640	1679	1720	1732	1011
45°	1307	1338	1397	1450	1461	1007
55°	974	1017	1091	1148	1160	873
65°	640	690	778	842	858	638
75°	325	388	488	554	570	344
85°	67	123	153	149	149	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2166.5	2166.5	2166.5	2166.5	2166.5
2.5°	2168.5	2168.5	2158.7	2168.5	2170.4
5°	2156.7	2160.6	2150.8	2162.6	2164.5
7.5°	2145.0	2145.0	2139.1	2150.8	2152.8
10°	2123.4	2125.4	2123.4	2137.1	2139.1
12.5°	2096.0	2099.9	2101.9	2115.6	2117.5
15°	2062.7	2068.6	2072.5	2090.1	2094.0
17.5°	2025.5	2031.3	2041.1	2060.7	2064.6
20°	1980.4	1988.3	2000.0	2025.5	2031.3
22.5°	1931.4	1939.3	1958.9	1982.4	1992.2
25°	1874.6	1890.3	1909.9	1941.2	1947.1
27.5°	1817.8	1831.5	1857.0	1890.3	1898.1
30°	1751.2	1772.8	1804.1	1837.4	1845.3
32.5°	1686.6	1708.1	1745.4	1780.6	1790.4
35°	1620.0	1639.6	1678.7	1719.9	1731.6
37.5°	1543.6	1569.1	1612.1	1653.3	1665.0
40°	1463.3	1494.6	1543.6	1586.7	1600.4
42.5°	1386.9	1420.2	1469.2	1516.2	1531.8
45°	1306.6	1337.9	1396.7	1449.6	1461.3
47.5°	1224.3	1259.6	1322.2	1375.1	1394.7
50°	1142.0	1179.2	1245.8	1300.7	1312.4
52.5°	1059.7	1098.9	1169.4	1228.2	1234.1
55°	973.6	1016.7	1091.1	1147.9	1159.6
57.5°	895.2	932.4	1012.7	1071.5	1085.2
60°	809.0	850.1	936.3	991.2	1008.8
62.5°	726.7	769.8	859.9	914.8	930.5
65°	640.5	689.5	777.7	842.3	858.0
67.5°	566.1	613.1	707.2	769.8	785.5
70°	479.9	532.8	632.7	697.4	713.0
72.5°	405.5	460.3	560.2	622.9	646.4
75°	325.2	387.9	487.8	554.4	570.0
77.5°	246.8	319.3	421.2	472.1	472.1
80°	176.3	252.7	346.7	370.2	374.1
82.5°	115.6	190.0	256.6	254.7	254.7
85°	66.6	123.4	152.8	148.9	148.9
87.5°	25.5	50.9	54.8	54.8	52.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)