

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: P311793

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP250-W2A-U-5700K**

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: P311793
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-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5700K 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: 6554.0 lumens
Efficiency: N/A
Efficacy: 110.5 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

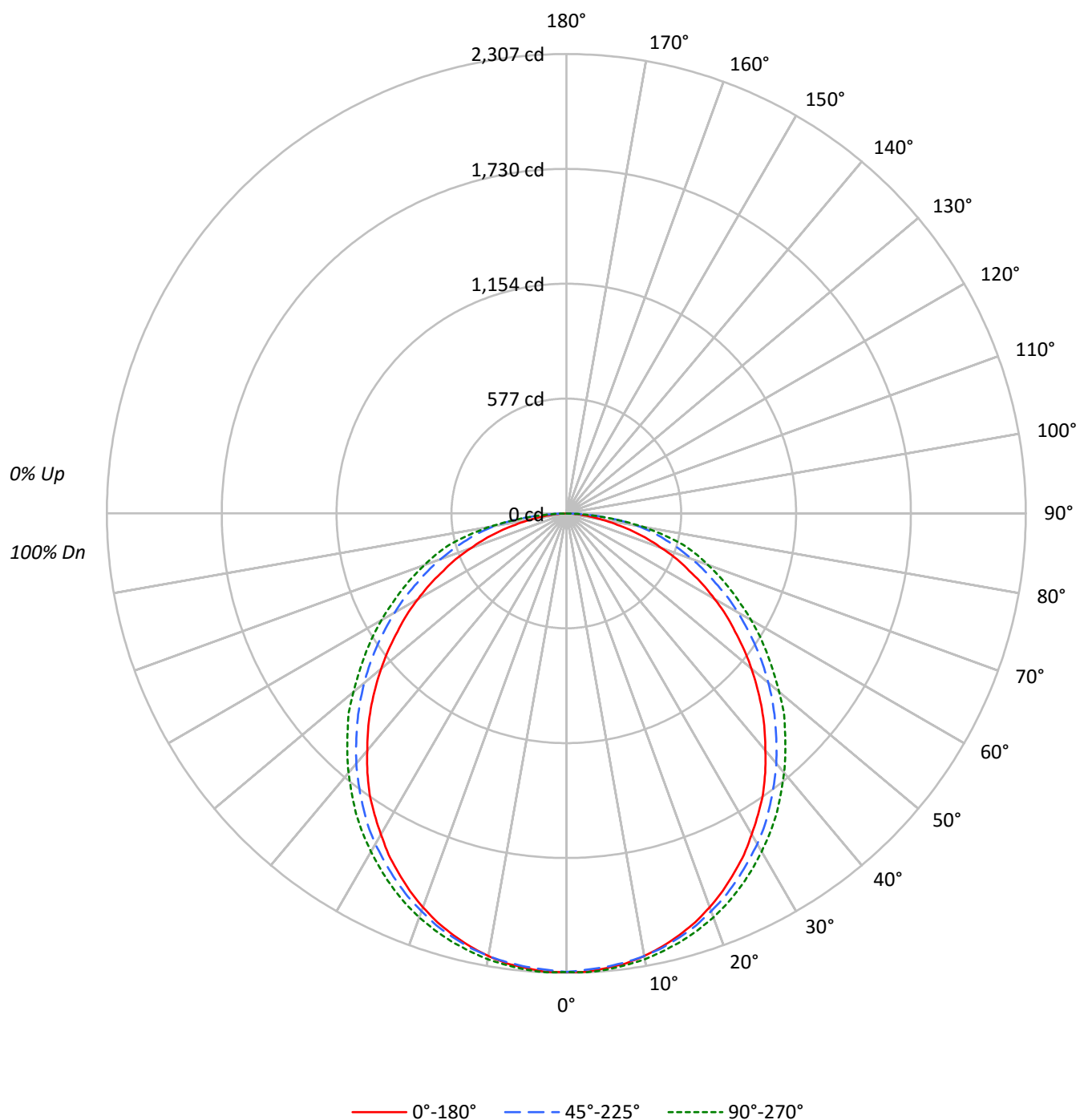
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3098	3098	3098
5°	3096	3087	3107
10°	3083	3083	3106
15°	3053	3068	3100
20°	3014	3043	3091
25°	2958	3013	3072
30°	2891	2979	3047
35°	2828	2930	3023
40°	2731	2881	2987
45°	2642	2824	2955
50°	2541	2771	2920
55°	2427	2720	2891
60°	2314	2678	2885
65°	2167	2631	2903
70°	2006	2645	2981
75°	1797	2695	3149
80°	1452	2855	3081
85°	1093	2507	2442



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.0	3.3
10°-20°	622.8	9.5
20°-30°	936.3	14.3
30°-40°	1115.2	17.0
40°-50°	1141.4	17.4
50°-60°	1027.6	15.7
60°-70°	807.0	12.3
70°-80°	523.7	8.0
80°-90°	162.0	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°	1777.1	27.1
0°-40°	2892.3	44.1
0°-60°	5061.3	77.2
0°-90°	6554.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6554.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2302	2302	2302	2302	2302	
5°	2292	2296	2286	2298	2300	218
15°	2192	2198	2202	2221	2225	618
25°	1992	2009	2030	2063	2069	918
35°	1722	1742	1784	1828	1840	1074
45°	1389	1422	1484	1540	1553	1071
55°	1035	1080	1160	1220	1232	928
65°	681	733	826	895	912	678
75°	346	412	518	589	606	366
85°	71	131	162	158	158	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2302.5	2302.5	2302.5	2302.5	2302.5
2.5°	2304.5	2304.5	2294.1	2304.5	2306.6
5°	2292.1	2296.2	2285.8	2298.3	2300.4
7.5°	2279.6	2279.6	2273.3	2285.8	2287.9
10°	2256.7	2258.7	2256.7	2271.2	2273.3
12.5°	2227.5	2231.7	2233.8	2248.3	2250.4
15°	2192.1	2198.4	2202.5	2221.3	2225.4
17.5°	2152.6	2158.8	2169.2	2190.0	2194.2
20°	2104.7	2113.0	2125.5	2152.6	2158.8
22.5°	2052.6	2061.0	2081.8	2106.8	2117.2
25°	1992.3	2008.9	2029.7	2063.1	2069.3
27.5°	1931.9	1946.5	1973.5	2008.9	2017.3
30°	1861.1	1884.0	1917.3	1952.7	1961.0
32.5°	1792.4	1815.3	1854.9	1892.3	1902.8
35°	1721.6	1742.5	1784.1	1827.8	1840.3
37.5°	1640.5	1667.5	1713.3	1757.0	1769.5
40°	1555.1	1588.4	1640.5	1686.3	1700.8
42.5°	1473.9	1509.3	1561.3	1611.3	1628.0
45°	1388.6	1421.9	1484.3	1540.5	1553.0
47.5°	1301.1	1338.6	1405.2	1461.4	1482.2
50°	1213.7	1253.2	1324.0	1382.3	1394.8
52.5°	1126.2	1167.9	1242.8	1305.3	1311.5
55°	1034.7	1080.5	1159.6	1219.9	1232.4
57.5°	951.4	990.9	1076.3	1138.7	1153.3
60°	859.8	903.5	995.1	1053.4	1072.1
62.5°	772.3	818.1	913.9	972.2	988.9
65°	680.7	732.8	826.5	895.2	911.8
67.5°	601.6	651.6	751.5	818.1	834.8
70°	510.0	566.2	672.4	741.1	757.8
72.5°	430.9	489.2	595.4	662.0	687.0
75°	345.6	412.2	518.4	589.1	605.8
77.5°	262.3	339.3	447.6	501.7	501.7
80°	187.4	268.6	368.5	393.5	397.6
82.5°	122.8	201.9	272.7	270.6	270.6
85°	70.8	131.2	162.4	158.2	158.2
87.5°	27.1	54.1	58.3	58.3	56.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)