

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: P311784

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP187-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: P311784
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-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" 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: 6608.0 lumens
Efficiency: N/A
Efficacy: 111.4 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

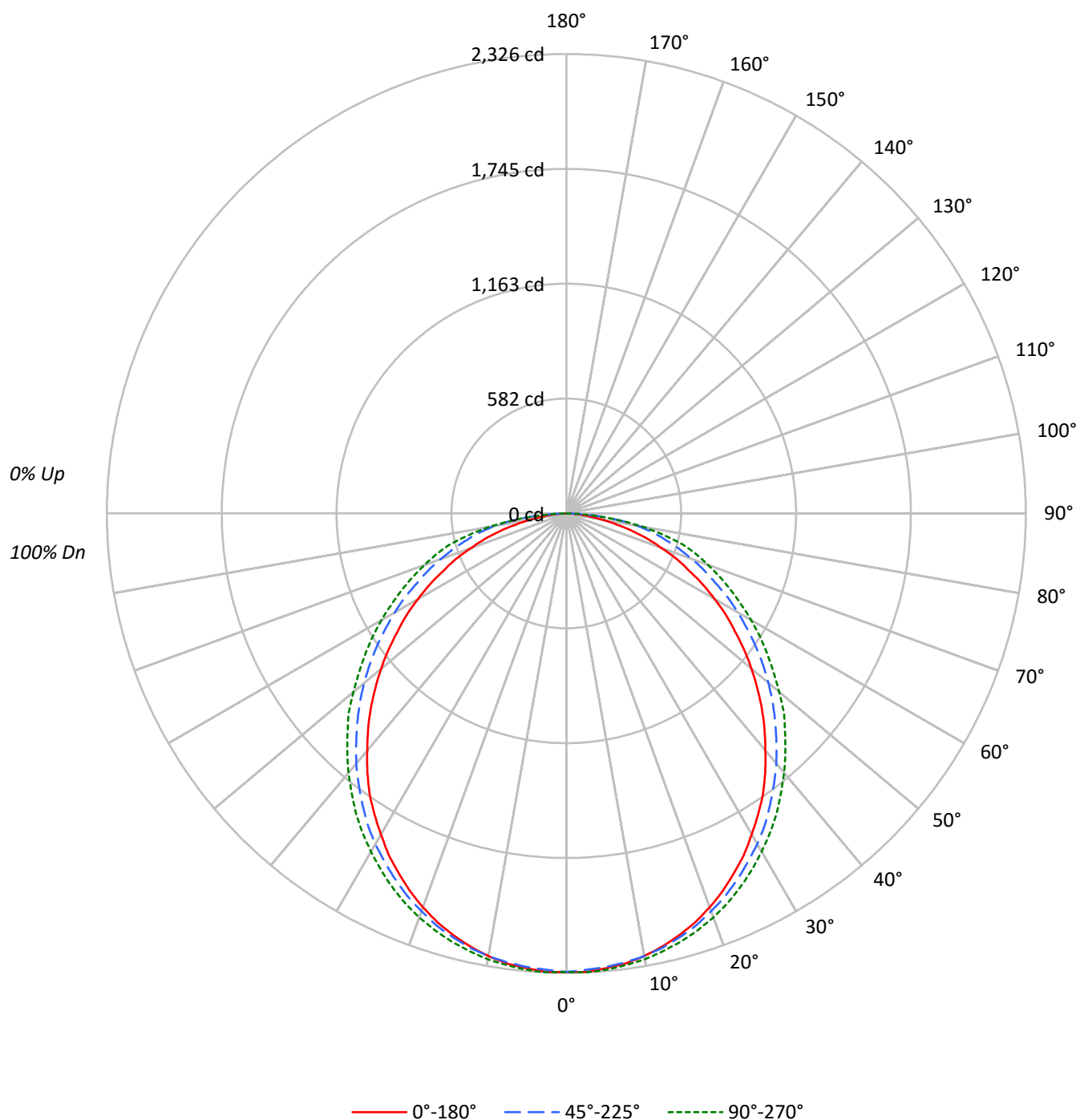
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3123	3123	3123
5°	3121	3113	3133
10°	3109	3109	3131
15°	3079	3093	3126
20°	3038	3068	3117
25°	2982	3038	3097
30°	2915	3003	3072
35°	2851	2955	3048
40°	2754	2905	3012
45°	2664	2848	2979
50°	2561	2794	2944
55°	2447	2742	2915
60°	2333	2700	2909
65°	2185	2653	2927
70°	2023	2667	3006
75°	1811	2717	3175
80°	1464	2879	3106
85°	1102	2527	2462



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.8	3.3
10°-20°	628.0	9.5
20°-30°	944.0	14.3
30°-40°	1124.4	17.0
40°-50°	1150.8	17.4
50°-60°	1036.1	15.7
60°-70°	813.6	12.3
70°-80°	528.1	8.0
80°-90°	163.3	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°	1791.7	27.1
0°-40°	2916.1	44.1
0°-60°	5103.0	77.2
0°-90°	6608.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6608.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2321	2321	2321	2321	2321	
5°	2311	2315	2305	2317	2319	220
15°	2210	2216	2221	2240	2244	623
25°	2009	2026	2046	2080	2086	925
35°	1736	1757	1799	1843	1856	1083
45°	1400	1434	1496	1553	1566	1079
55°	1043	1089	1169	1230	1243	935
65°	686	739	833	902	919	683
75°	348	416	523	594	611	369
85°	71	132	164	160	160	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2321.4	2321.4	2321.4	2321.4	2321.4
2.5°	2323.5	2323.5	2313.0	2323.5	2325.6
5°	2310.9	2315.1	2304.6	2317.2	2319.3
7.5°	2298.3	2298.3	2292.0	2304.6	2306.7
10°	2275.3	2277.4	2275.3	2289.9	2292.0
12.5°	2245.9	2250.1	2252.2	2266.9	2269.0
15°	2210.2	2216.5	2220.7	2239.6	2243.8
17.5°	2170.3	2176.6	2187.1	2208.1	2212.3
20°	2122.0	2130.4	2143.0	2170.3	2176.6
22.5°	2069.6	2078.0	2098.9	2124.1	2134.6
25°	2008.7	2025.5	2046.5	2080.1	2086.4
27.5°	1947.8	1962.5	1989.8	2025.5	2033.9
30°	1876.5	1899.5	1933.1	1968.8	1977.2
32.5°	1807.2	1830.3	1870.2	1907.9	1918.4
35°	1735.8	1756.8	1798.8	1842.9	1855.5
37.5°	1654.0	1681.3	1727.4	1771.5	1784.1
40°	1567.9	1601.5	1654.0	1700.1	1714.8
42.5°	1486.1	1521.7	1574.2	1624.6	1641.4
45°	1400.0	1433.6	1496.5	1553.2	1565.8
47.5°	1311.8	1349.6	1416.8	1473.5	1494.4
50°	1223.7	1263.6	1334.9	1393.7	1406.3
52.5°	1135.5	1177.5	1253.1	1316.0	1322.3
55°	1043.2	1089.4	1169.1	1230.0	1242.6
57.5°	959.2	999.1	1085.2	1148.1	1162.8
60°	866.9	910.9	1003.3	1062.1	1081.0
62.5°	778.7	824.9	921.4	980.2	997.0
65°	686.4	738.8	833.3	902.5	919.3
67.5°	606.6	657.0	757.7	824.9	841.7
70°	514.2	570.9	678.0	747.2	764.0
72.5°	434.5	493.3	600.3	667.5	692.7
75°	348.4	415.6	522.6	594.0	610.8
77.5°	264.5	342.1	451.3	505.8	505.8
80°	188.9	270.8	371.5	396.7	400.9
82.5°	123.8	203.6	275.0	272.9	272.9
85°	71.4	132.2	163.7	159.5	159.5
87.5°	27.3	54.6	58.8	58.8	56.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)