

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: P314507

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-S-CP187-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: P314507
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-L83050-S-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB 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: 6655.0 lumens
Efficiency: N/A
Efficacy: 112.8 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

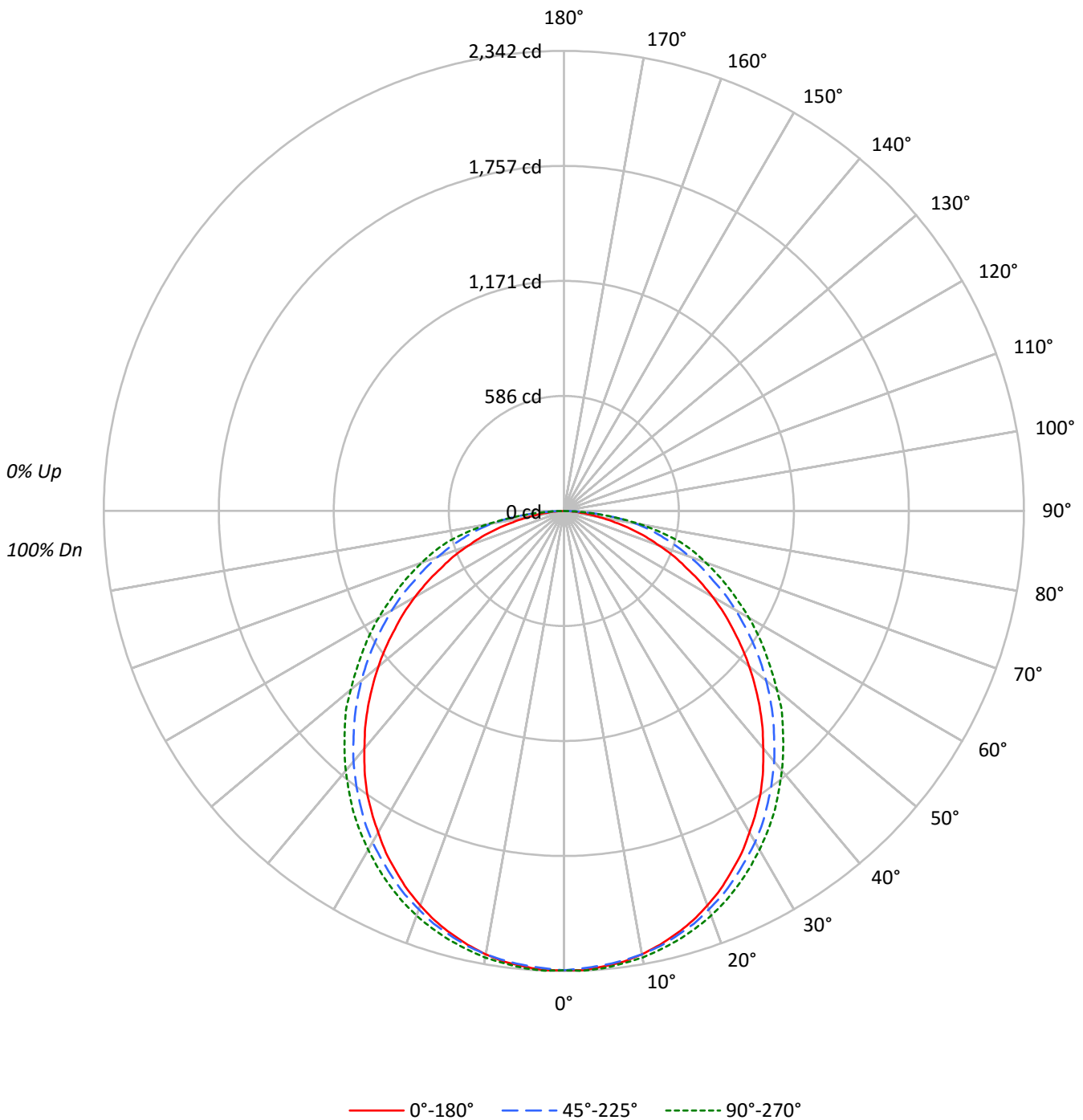
Input Watts (W): 59
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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°	3146	3146	3146
5°	3143	3135	3155
10°	3131	3131	3154
15°	3101	3115	3148
20°	3060	3090	3139
25°	3003	3060	3119
30°	2936	3025	3094
35°	2871	2976	3069
40°	2774	2926	3033
45°	2683	2868	3001
50°	2580	2814	2965
55°	2464	2762	2936
60°	2349	2719	2929
65°	2201	2672	2948
70°	2037	2686	3027
75°	1824	2737	3198
80°	1474	2899	3128
85°	1110	2546	2481



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.3	3.3
10°-20°	632.4	9.5
20°-30°	950.7	14.3
30°-40°	1132.4	17.0
40°-50°	1159.0	17.4
50°-60°	1043.4	15.7
60°-70°	819.4	12.3
70°-80°	531.8	8.0
80°-90°	164.5	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°	1804.5	27.1
0°-40°	2936.9	44.1
0°-60°	5139.3	77.2
0°-90°	6655.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6655.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2338	2338	2338	2338	2338	
5°	2327	2332	2321	2334	2336	221
15°	2226	2232	2236	2256	2260	628
25°	2023	2040	2061	2095	2101	932
35°	1748	1769	1812	1856	1869	1091
45°	1410	1444	1507	1564	1577	1087
55°	1051	1097	1177	1239	1251	942
65°	691	744	839	909	926	688
75°	351	418	526	598	615	371
85°	72	133	165	161	161	87
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2337.9	2337.9	2337.9	2337.9	2337.9
2.5°	2340.1	2340.1	2329.5	2340.1	2342.2
5°	2327.4	2331.6	2321.0	2333.7	2335.8
7.5°	2314.7	2314.7	2308.4	2321.0	2323.1
10°	2291.4	2293.6	2291.4	2306.2	2308.4
12.5°	2261.8	2266.1	2268.2	2283.0	2285.1
15°	2225.9	2232.3	2236.5	2255.5	2259.7
17.5°	2185.7	2192.1	2202.7	2223.8	2228.0
20°	2137.1	2145.6	2158.3	2185.7	2192.1
22.5°	2084.3	2092.7	2113.9	2139.2	2149.8
25°	2023.0	2039.9	2061.0	2094.8	2101.2
27.5°	1961.7	1976.5	2004.0	2039.9	2048.3
30°	1889.8	1913.1	1946.9	1982.8	1991.3
32.5°	1820.0	1843.3	1883.5	1921.5	1932.1
35°	1748.2	1769.3	1811.6	1856.0	1868.7
37.5°	1665.7	1693.2	1739.7	1784.1	1796.8
40°	1579.1	1612.9	1665.7	1712.2	1727.0
42.5°	1496.6	1532.6	1585.4	1636.1	1653.0
45°	1410.0	1443.8	1507.2	1564.3	1577.0
47.5°	1321.2	1359.2	1426.9	1483.9	1505.1
50°	1232.4	1272.6	1344.4	1403.6	1416.3
52.5°	1143.6	1185.9	1262.0	1325.4	1331.7
55°	1050.6	1097.1	1177.4	1238.7	1251.4
57.5°	966.0	1006.2	1092.9	1156.3	1171.1
60°	873.0	917.4	1010.4	1069.6	1088.6
62.5°	784.2	830.8	928.0	987.2	1004.1
65°	691.2	744.1	839.2	909.0	925.9
67.5°	610.9	661.6	763.1	830.8	847.7
70°	517.9	575.0	682.8	752.5	769.5
72.5°	437.6	496.8	604.6	672.2	697.6
75°	350.9	418.5	526.4	598.2	615.1
77.5°	266.3	344.6	454.5	509.4	509.4
80°	190.2	272.7	374.2	399.5	403.7
82.5°	124.7	205.0	276.9	274.8	274.8
85°	71.9	133.2	164.9	160.7	160.7
87.5°	27.5	55.0	59.2	59.2	57.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)