

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: P311788

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP250-W2A-U-3500K**

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: P311788
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-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3500K 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: 6140.0 lumens
Efficiency: N/A
Efficacy: 105.9 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

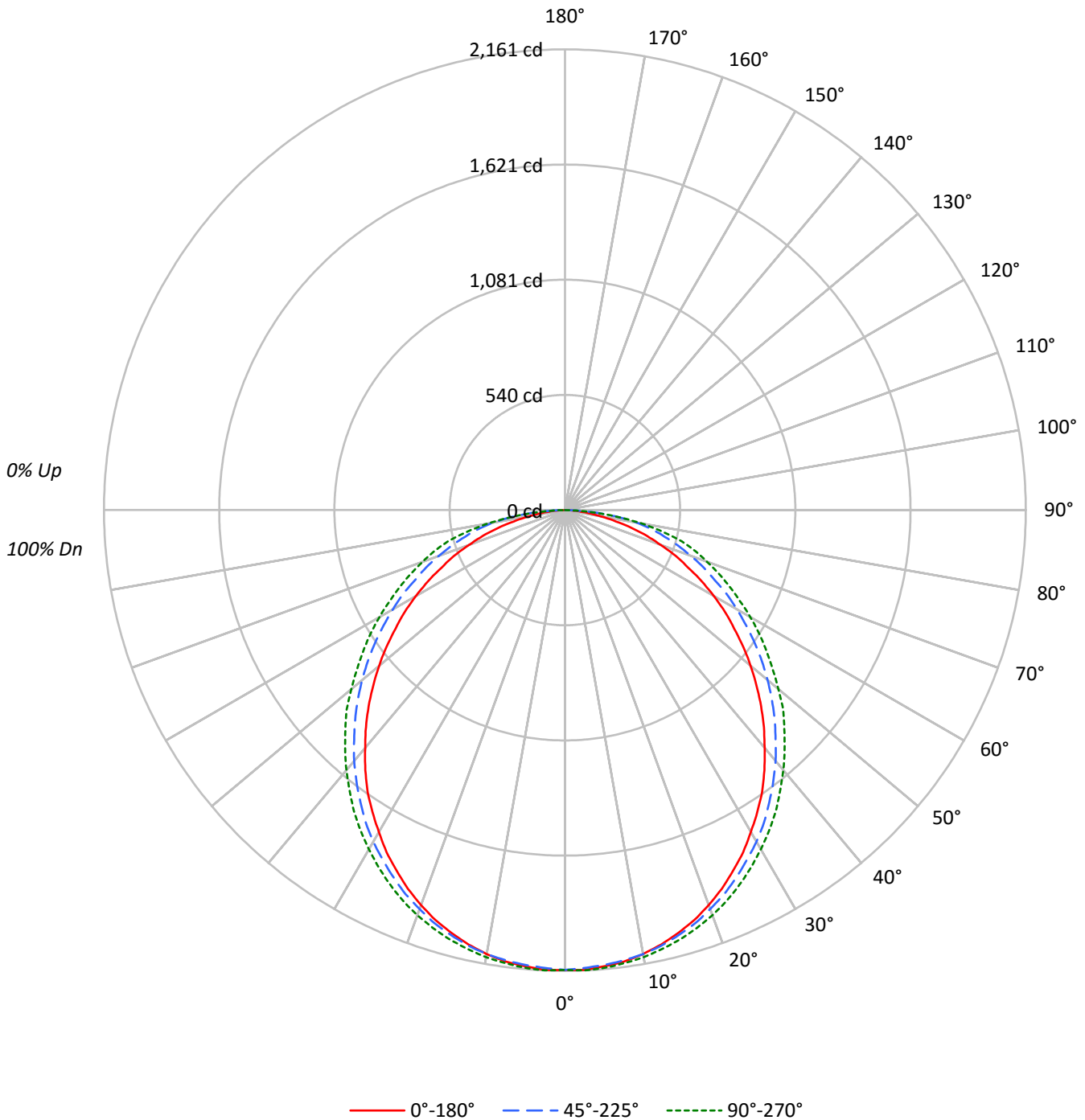
Input Watts (W): 58
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2902	2902	2902
5°	2900	2892	2911
10°	2888	2888	2910
15°	2861	2874	2904
20°	2823	2851	2896
25°	2771	2823	2878
30°	2709	2791	2854
35°	2649	2745	2832
40°	2559	2699	2799
45°	2475	2646	2768
50°	2380	2596	2735
55°	2274	2548	2708
60°	2168	2509	2703
65°	2030	2465	2720
70°	1880	2478	2793
75°	1683	2524	2950
80°	1360	2675	2886
85°	1024	2348	2288



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.2	3.3
10°-20°	583.5	9.5
20°-30°	877.1	14.3
30°-40°	1044.8	17.0
40°-50°	1069.3	17.4
50°-60°	962.7	15.7
60°-70°	756.0	12.3
70°-80°	490.7	8.0
80°-90°	151.8	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°	1664.8	27.1
0°-40°	2709.6	44.1
0°-60°	4741.6	77.2
0°-90°	6140.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6140.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2157	2157	2157	2157	2157	
5°	2147	2151	2141	2153	2155	204
15°	2054	2060	2063	2081	2085	579
25°	1866	1882	1902	1933	1939	860
35°	1613	1632	1671	1712	1724	1006
45°	1301	1332	1391	1443	1455	1003
55°	969	1012	1086	1143	1155	869
65°	638	686	774	839	854	635
75°	324	386	486	552	568	343
85°	66	123	152	148	148	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2157.0	2157.0	2157.0	2157.0	2157.0
2.5°	2159.0	2159.0	2149.2	2159.0	2160.9
5°	2147.3	2151.2	2141.4	2153.1	2155.1
7.5°	2135.6	2135.6	2129.7	2141.4	2143.4
10°	2114.1	2116.1	2114.1	2127.8	2129.7
12.5°	2086.8	2090.7	2092.7	2106.3	2108.3
15°	2053.7	2059.5	2063.4	2081.0	2084.9
17.5°	2016.6	2022.5	2032.2	2051.7	2055.6
20°	1971.7	1979.5	1991.2	2016.6	2022.5
22.5°	1923.0	1930.8	1950.3	1973.7	1983.4
25°	1866.4	1882.0	1901.5	1932.7	1938.6
27.5°	1809.9	1823.5	1848.9	1882.0	1889.8
30°	1743.6	1765.0	1796.2	1829.4	1837.2
32.5°	1679.2	1700.7	1737.7	1772.8	1782.6
35°	1612.9	1632.4	1671.4	1712.4	1724.1
37.5°	1536.8	1562.2	1605.1	1646.0	1657.7
40°	1456.9	1488.1	1536.8	1579.7	1593.4
42.5°	1380.8	1414.0	1462.7	1509.5	1525.1
45°	1300.8	1332.0	1390.6	1443.2	1454.9
47.5°	1218.9	1254.0	1316.4	1369.1	1388.6
50°	1137.0	1174.1	1240.4	1295.0	1306.7
52.5°	1055.1	1094.1	1164.3	1222.8	1228.7
55°	969.3	1012.2	1086.3	1142.9	1154.6
57.5°	891.3	928.3	1008.3	1066.8	1080.5
60°	805.5	846.4	932.2	986.8	1004.4
62.5°	723.6	766.5	856.2	910.8	926.4
65°	637.7	686.5	774.3	838.6	854.2
67.5°	563.6	610.4	704.1	766.5	782.1
70°	477.8	530.5	629.9	694.3	709.9
72.5°	403.7	458.3	557.8	620.2	643.6
75°	323.7	386.2	485.6	551.9	567.5
77.5°	245.7	317.9	419.3	470.0	470.0
80°	175.5	251.6	345.2	368.6	372.5
82.5°	115.1	189.2	255.5	253.5	253.5
85°	66.3	122.9	152.1	148.2	148.2
87.5°	25.4	50.7	54.6	54.6	52.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)