

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: P311789

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP250-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: P311789
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 6275.0 lumens
Efficiency: N/A
Efficacy: 107.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

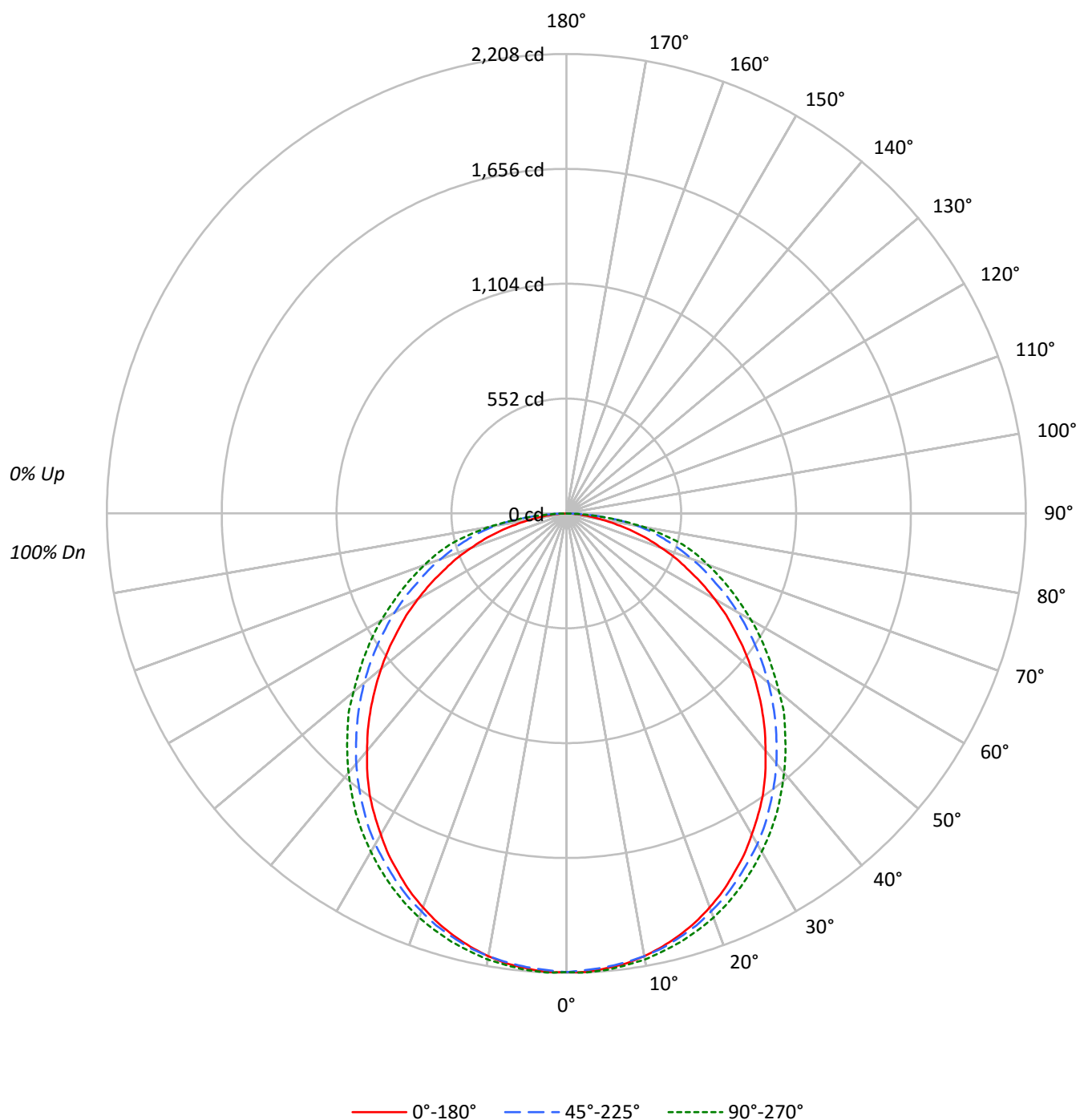
Input Watts (W): 58.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2966	2966	2966
5°	2964	2956	2975
10°	2952	2952	2974
15°	2924	2937	2968
20°	2885	2914	2959
25°	2832	2885	2941
30°	2768	2852	2917
35°	2708	2806	2894
40°	2615	2759	2860
45°	2530	2704	2829
50°	2432	2654	2795
55°	2324	2604	2768
60°	2215	2564	2762
65°	2075	2519	2779
70°	1921	2533	2854
75°	1720	2580	3015
80°	1390	2734	2950
85°	1047	2401	2339



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	208.7	3.3
10°-20°	596.3	9.5
20°-30°	896.4	14.3
30°-40°	1067.8	17.0
40°-50°	1092.8	17.4
50°-60°	983.8	15.7
60°-70°	772.6	12.3
70°-80°	501.4	8.0
80°-90°	155.1	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°	1701.4	27.1
0°-40°	2769.2	44.1
0°-60°	4845.8	77.2
0°-90°	6275.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6275.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2204	2204	2204	2204	2204	
5°	2194	2198	2188	2200	2202	209
15°	2099	2105	2109	2127	2131	592
25°	1908	1923	1943	1975	1981	879
35°	1648	1668	1708	1750	1762	1028
45°	1329	1361	1421	1475	1487	1025
55°	991	1034	1110	1168	1180	888
65°	652	702	791	857	873	649
75°	331	395	496	564	580	350
85°	68	126	156	152	152	82
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2204.4	2204.4	2204.4	2204.4	2204.4
2.5°	2206.4	2206.4	2196.5	2206.4	2208.4
5°	2194.5	2198.5	2188.5	2200.5	2202.5
7.5°	2182.5	2182.5	2176.5	2188.5	2190.5
10°	2160.6	2162.6	2160.6	2174.6	2176.5
12.5°	2132.7	2136.7	2138.7	2152.6	2154.6
15°	2098.8	2104.8	2108.8	2126.7	2130.7
17.5°	2060.9	2066.9	2076.9	2096.8	2100.8
20°	2015.1	2023.1	2035.0	2060.9	2066.9
22.5°	1965.3	1973.2	1993.2	2017.1	2027.1
25°	1907.5	1923.4	1943.3	1975.2	1981.2
27.5°	1849.7	1863.6	1889.5	1923.4	1931.4
30°	1781.9	1803.8	1835.7	1869.6	1877.6
32.5°	1716.1	1738.0	1775.9	1811.8	1821.8
35°	1648.4	1668.3	1708.1	1750.0	1762.0
37.5°	1570.6	1596.5	1640.4	1682.2	1694.2
40°	1488.9	1520.8	1570.6	1614.5	1628.4
42.5°	1411.2	1445.0	1494.9	1542.7	1558.7
45°	1329.4	1361.3	1421.1	1474.9	1486.9
47.5°	1245.7	1281.6	1345.4	1399.2	1419.1
50°	1162.0	1199.9	1267.7	1323.5	1335.4
52.5°	1078.3	1118.2	1189.9	1249.7	1255.7
55°	990.6	1034.5	1110.2	1168.0	1180.0
57.5°	910.9	948.7	1030.5	1090.3	1104.2
60°	823.2	865.0	952.7	1008.5	1026.5
62.5°	739.5	783.3	875.0	930.8	946.8
65°	651.8	701.6	791.3	857.1	873.0
67.5°	576.0	623.9	719.5	783.3	799.3
70°	488.3	542.1	643.8	709.6	725.5
72.5°	412.6	468.4	570.0	633.8	657.7
75°	330.9	394.6	496.3	564.1	580.0
77.5°	251.1	324.9	428.5	480.4	480.4
80°	179.4	257.1	352.8	376.7	380.7
82.5°	117.6	193.3	261.1	259.1	259.1
85°	67.8	125.6	155.5	151.5	151.5
87.5°	25.9	51.8	55.8	55.8	53.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)