

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: P314136

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-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: P314136
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 5983.0 lumens
Efficiency: N/A
Efficacy: 103.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

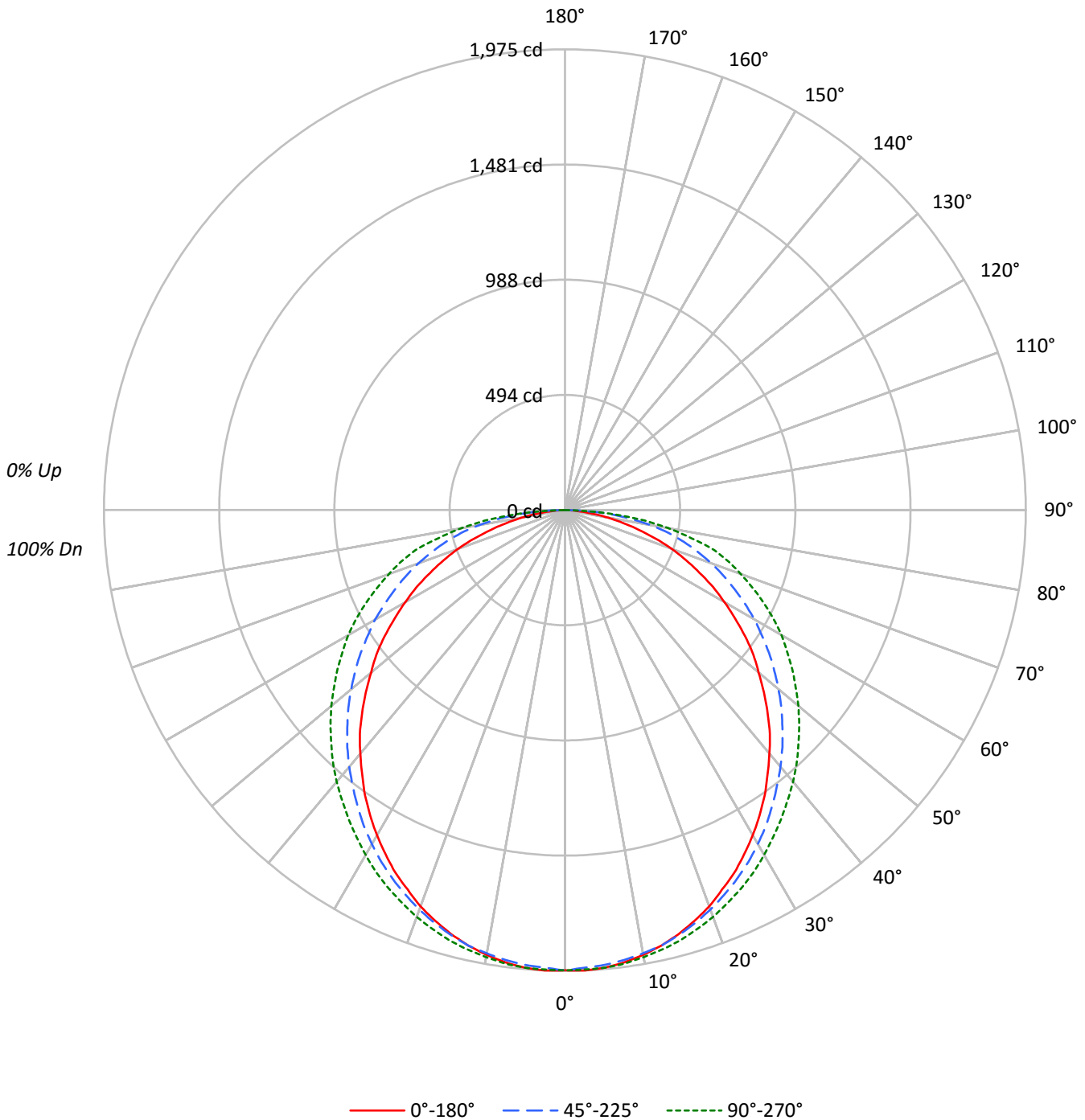
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2655	2655	2655
5°	2660	2644	2660
10°	2644	2636	2658
15°	2621	2627	2660
20°	2589	2609	2657
25°	2549	2590	2655
30°	2501	2569	2652
35°	2452	2543	2654
40°	2395	2524	2671
45°	2338	2508	2693
50°	2269	2501	2734
55°	2212	2505	2789
60°	2126	2527	2884
65°	2029	2553	2989
70°	1921	2632	3155
75°	1713	2745	3447
80°	1461	2907	3522
85°	1042	2881	3372



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.7	3.1
10°-20°	533.9	8.9
20°-30°	806.5	13.5
30°-40°	972.0	16.2
40°-50°	1020.4	17.1
50°-60°	954.7	16.0
60°-70°	788.4	13.2
70°-80°	537.2	9.0
80°-90°	183.2	3.1
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°	1527.2	25.5
0°-40°	2499.1	41.8
0°-60°	4474.2	74.8
0°-90°	5983.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5983.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1973	1973	1973	1973	1973	
5°	1969	1967	1957	1969	1969	187
15°	1882	1884	1886	1906	1910	530
25°	1717	1725	1745	1779	1788	790
35°	1493	1509	1548	1600	1616	933
45°	1229	1255	1318	1390	1415	948
55°	943	981	1068	1155	1189	842
65°	637	691	802	903	939	632
75°	330	405	528	627	663	351
85°	68	133	187	210	218	84
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1973.1	1973.1	1973.1	1973.1	1973.1
2.5°	1975.1	1973.1	1963.2	1973.1	1971.2
5°	1969.2	1967.2	1957.3	1969.2	1969.2
7.5°	1955.3	1955.3	1945.4	1959.2	1961.2
10°	1935.4	1935.4	1929.5	1945.4	1945.4
12.5°	1911.6	1911.6	1911.6	1927.5	1929.5
15°	1881.8	1883.8	1885.8	1905.6	1909.6
17.5°	1846.1	1850.1	1856.0	1879.8	1883.8
20°	1808.4	1812.4	1822.3	1850.1	1856.0
22.5°	1760.7	1770.7	1784.6	1816.3	1822.3
25°	1717.1	1725.0	1744.9	1778.6	1788.5
27.5°	1663.5	1675.4	1701.2	1736.9	1750.8
30°	1609.9	1621.8	1653.5	1695.2	1707.1
32.5°	1552.3	1570.2	1603.9	1647.6	1661.5
35°	1492.8	1508.6	1548.3	1600.0	1615.8
37.5°	1427.3	1449.1	1492.8	1548.3	1568.2
40°	1363.7	1387.6	1437.2	1496.7	1520.5
42.5°	1300.2	1324.0	1379.6	1447.1	1470.9
45°	1228.7	1254.6	1318.1	1389.5	1415.3
47.5°	1157.3	1189.0	1258.5	1334.0	1361.7
50°	1083.8	1119.6	1195.0	1274.4	1306.2
52.5°	1018.3	1052.1	1131.5	1216.8	1246.6
55°	942.9	980.6	1068.0	1155.3	1189.0
57.5°	865.5	907.2	1000.5	1095.7	1129.5
60°	790.1	835.7	938.9	1034.2	1071.9
62.5°	716.6	762.3	869.5	968.7	1006.4
65°	637.2	690.8	802.0	903.2	938.9
67.5°	561.8	619.3	736.5	835.7	871.4
70°	488.3	543.9	669.0	766.2	802.0
72.5°	408.9	472.4	597.5	698.7	736.5
75°	329.5	405.0	528.0	627.3	663.0
77.5°	256.1	333.5	456.6	537.9	555.8
80°	188.6	268.0	375.2	432.7	454.6
82.5°	121.1	200.5	285.8	327.5	345.4
85°	67.5	133.0	186.6	210.4	218.4
87.5°	27.8	57.6	75.4	85.4	85.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)