

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: P311117

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CP250-W2A-U-5500K**

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: P311117
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-L82765-CP250-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5500K 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: 6221.0 lumens
Efficiency: N/A
Efficacy: 104.9 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

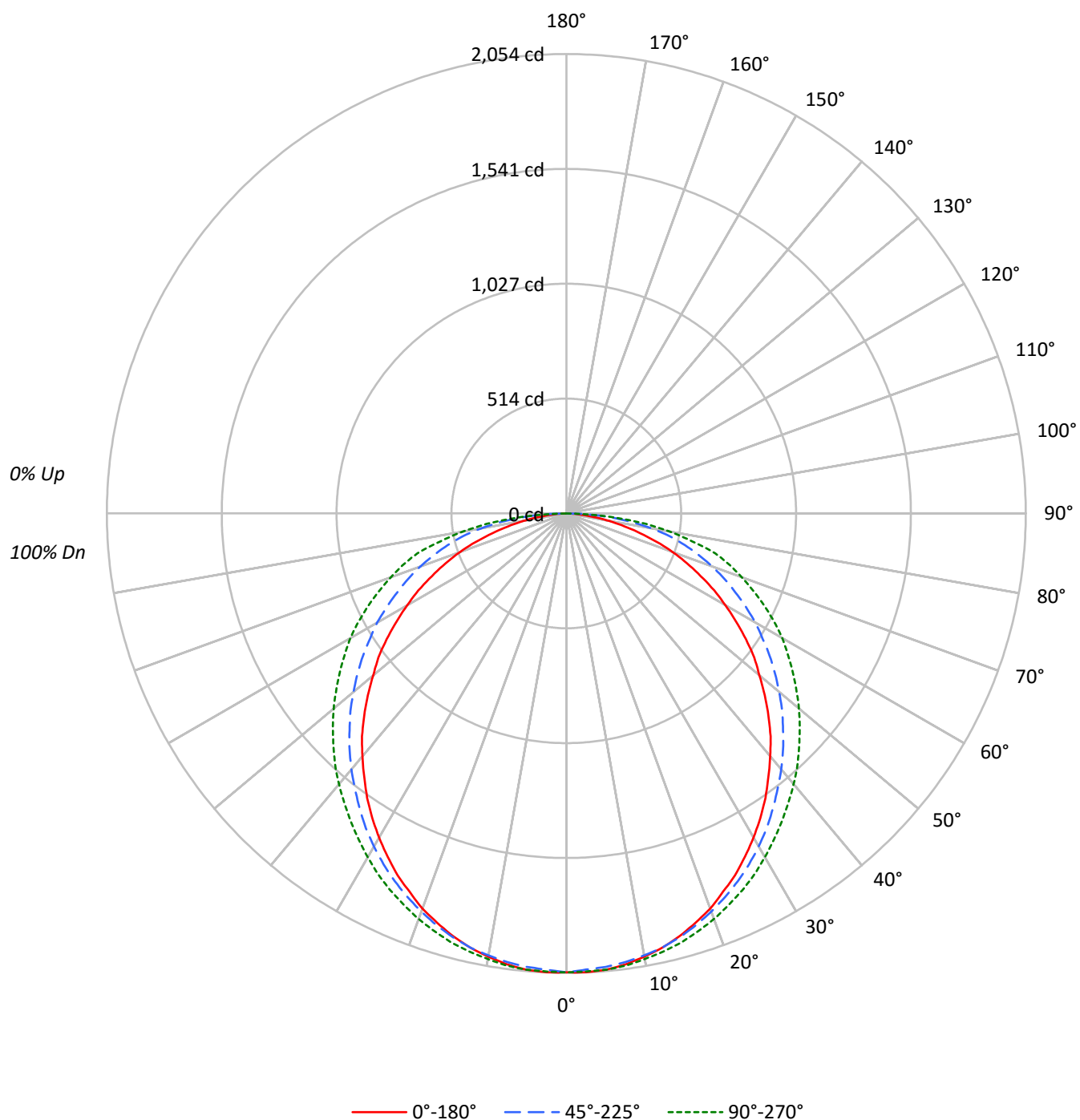
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2760	2760	2760
5°	2765	2749	2765
10°	2749	2741	2764
15°	2726	2731	2766
20°	2692	2713	2763
25°	2651	2693	2761
30°	2601	2671	2758
35°	2549	2644	2760
40°	2491	2625	2777
45°	2431	2608	2800
50°	2359	2601	2843
55°	2300	2605	2900
60°	2211	2627	2999
65°	2109	2655	3108
70°	1997	2736	3281
75°	1781	2854	3584
80°	1519	3023	3663
85°	1084	2995	3504



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.2	3.1
10°-20°	555.2	8.9
20°-30°	838.6	13.5
30°-40°	1010.6	16.2
40°-50°	1061.0	17.1
50°-60°	992.6	16.0
60°-70°	819.7	13.2
70°-80°	558.6	9.0
80°-90°	190.5	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°	1587.9	25.5
0°-40°	2598.6	41.8
0°-60°	4652.2	74.8
0°-90°	6221.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6221.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2052	2052	2052	2052	2052	
5°	2048	2045	2035	2048	2048	194
15°	1957	1959	1961	1982	1986	552
25°	1785	1794	1814	1849	1860	821
35°	1552	1569	1610	1664	1680	970
45°	1278	1304	1370	1445	1472	985
55°	980	1020	1110	1201	1236	875
65°	662	718	834	939	976	657
75°	343	421	549	652	689	365
85°	70	138	194	219	227	88
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2051.6	2051.6	2051.6	2051.6	2051.6
2.5°	2053.7	2051.6	2041.3	2051.6	2049.6
5°	2047.5	2045.4	2035.1	2047.5	2047.5
7.5°	2033.1	2033.1	2022.7	2037.2	2039.2
10°	2012.4	2012.4	2006.2	2022.7	2022.7
12.5°	1987.6	1987.6	1987.6	2004.2	2006.2
15°	1956.7	1958.8	1960.8	1981.5	1985.6
17.5°	1919.5	1923.7	1929.9	1954.6	1958.8
20°	1880.3	1884.4	1894.8	1923.7	1929.9
22.5°	1830.8	1841.1	1855.6	1888.6	1894.8
25°	1785.4	1793.6	1814.3	1849.4	1859.7
27.5°	1729.6	1742.0	1768.9	1806.0	1820.5
30°	1673.9	1686.3	1719.3	1762.7	1775.1
32.5°	1614.1	1632.6	1667.7	1713.1	1727.6
35°	1552.1	1568.7	1609.9	1663.6	1680.1
37.5°	1484.0	1506.7	1552.1	1609.9	1630.6
40°	1418.0	1442.7	1494.3	1556.3	1581.0
42.5°	1351.9	1376.7	1434.5	1504.7	1529.4
45°	1277.6	1304.5	1370.5	1444.8	1471.6
47.5°	1203.3	1236.3	1308.6	1387.0	1415.9
50°	1127.0	1164.1	1242.5	1325.1	1358.1
52.5°	1058.8	1093.9	1176.5	1265.2	1296.2
55°	980.4	1019.6	1110.4	1201.3	1236.3
57.5°	899.9	943.3	1040.3	1139.3	1174.4
60°	821.5	869.0	976.3	1075.4	1114.6
62.5°	745.1	792.6	904.0	1007.2	1046.5
65°	662.5	718.3	833.9	939.1	976.3
67.5°	584.1	644.0	765.7	869.0	906.1
70°	507.7	565.5	695.6	796.7	833.9
72.5°	425.2	491.2	621.3	726.5	765.7
75°	342.6	421.1	549.0	652.2	689.4
77.5°	266.3	346.8	474.7	559.3	577.9
80°	196.1	278.6	390.1	450.0	472.7
82.5°	125.9	208.5	297.2	340.6	359.1
85°	70.2	138.3	194.0	218.8	227.0
87.5°	28.9	59.9	78.4	88.8	88.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)