

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: P314481

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-S-CP187-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: P314481
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: 24FCZ2-65HE-UNV-L83050-S-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" 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: 5875.0 lumens
Efficiency: N/A
Efficacy: 111.7 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

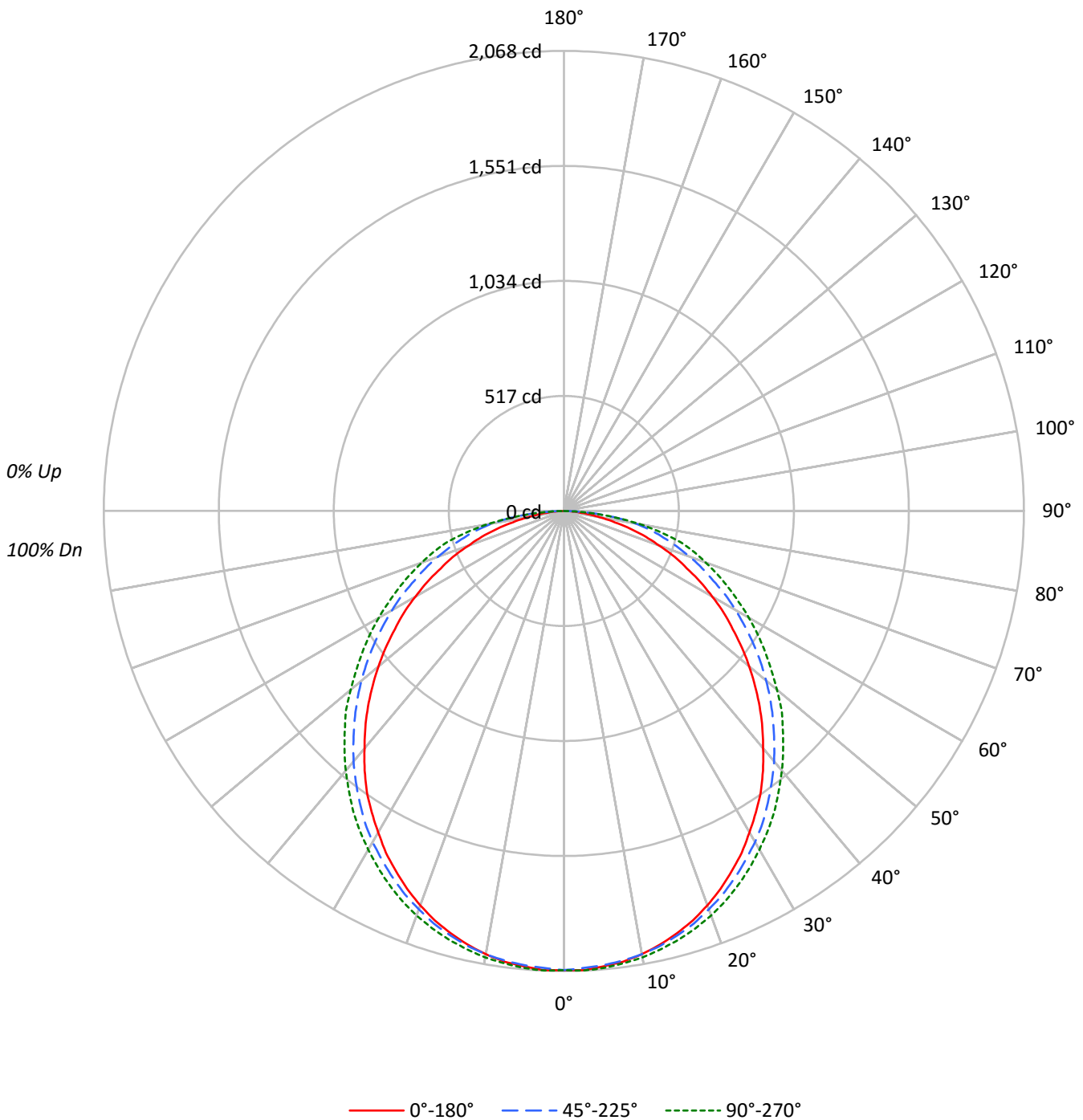
Input Watts (W): 52.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2777	2777	2777
5°	2775	2767	2785
10°	2764	2764	2784
15°	2737	2750	2779
20°	2701	2728	2771
25°	2651	2701	2754
30°	2592	2670	2731
35°	2535	2627	2710
40°	2448	2583	2678
45°	2368	2532	2649
50°	2277	2484	2617
55°	2176	2438	2591
60°	2074	2400	2586
65°	1943	2358	2602
70°	1799	2371	2672
75°	1611	2416	2823
80°	1302	2559	2762
85°	979	2248	2189



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.4	3.3
10°-20°	558.3	9.5
20°-30°	839.3	14.3
30°-40°	999.7	17.0
40°-50°	1023.1	17.4
50°-60°	921.1	15.7
60°-70°	723.4	12.3
70°-80°	469.5	8.0
80°-90°	145.2	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°	1593.0	27.1
0°-40°	2592.7	44.1
0°-60°	4536.9	77.2
0°-90°	5875.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5875.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2064	2064	2064	2064	2064	
5°	2055	2058	2049	2060	2062	195
15°	1965	1971	1974	1991	1995	554
25°	1786	1801	1820	1849	1855	823
35°	1543	1562	1599	1638	1650	963
45°	1245	1275	1330	1381	1392	960
55°	928	968	1039	1094	1105	831
65°	610	657	741	802	817	607
75°	310	370	465	528	543	328
85°	63	118	146	142	142	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2063.9	2063.9	2063.9	2063.9	2063.9
2.5°	2065.8	2065.8	2056.5	2065.8	2067.7
5°	2054.6	2058.3	2049.0	2060.2	2062.1
7.5°	2043.4	2043.4	2037.8	2049.0	2050.9
10°	2022.9	2024.7	2022.9	2035.9	2037.8
12.5°	1996.7	2000.5	2002.3	2015.4	2017.3
15°	1965.0	1970.6	1974.4	1991.1	1994.9
17.5°	1929.6	1935.2	1944.5	1963.2	1966.9
20°	1886.6	1894.1	1905.3	1929.6	1935.2
22.5°	1840.0	1847.5	1866.1	1888.5	1897.8
25°	1785.9	1800.8	1819.5	1849.3	1854.9
27.5°	1731.8	1744.8	1769.1	1800.8	1808.3
30°	1668.3	1688.8	1718.7	1750.4	1757.9
32.5°	1606.7	1627.3	1662.7	1696.3	1705.6
35°	1543.3	1561.9	1599.3	1638.5	1649.6
37.5°	1470.5	1494.8	1535.8	1575.0	1586.2
40°	1394.0	1423.8	1470.5	1511.6	1524.6
42.5°	1321.2	1352.9	1399.6	1444.4	1459.3
45°	1244.7	1274.6	1330.5	1380.9	1392.1
47.5°	1166.3	1199.9	1259.6	1310.0	1328.7
50°	1087.9	1123.4	1186.9	1239.1	1250.3
52.5°	1009.6	1046.9	1114.1	1170.1	1175.7
55°	927.5	968.5	1039.4	1093.5	1104.7
57.5°	852.8	888.3	964.8	1020.8	1033.8
60°	770.7	809.9	892.0	944.3	961.1
62.5°	692.3	733.4	819.2	871.5	886.4
65°	610.2	656.9	740.8	802.4	817.4
67.5°	539.3	584.1	673.7	733.4	748.3
70°	457.2	507.6	602.8	664.3	679.3
72.5°	386.3	438.5	533.7	593.4	615.8
75°	309.8	369.5	464.7	528.1	543.0
77.5°	235.1	304.2	401.2	449.7	449.7
80°	168.0	240.7	330.3	352.7	356.4
82.5°	110.1	181.0	244.5	242.6	242.6
85°	63.4	117.6	145.6	141.8	141.8
87.5°	24.3	48.5	52.3	52.3	50.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)