

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: P311743

Luminaire Tested: **24FCZ2-65HE-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: P311743
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-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: 5692.0 lumens
Efficiency: N/A
Efficacy: 107.8 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

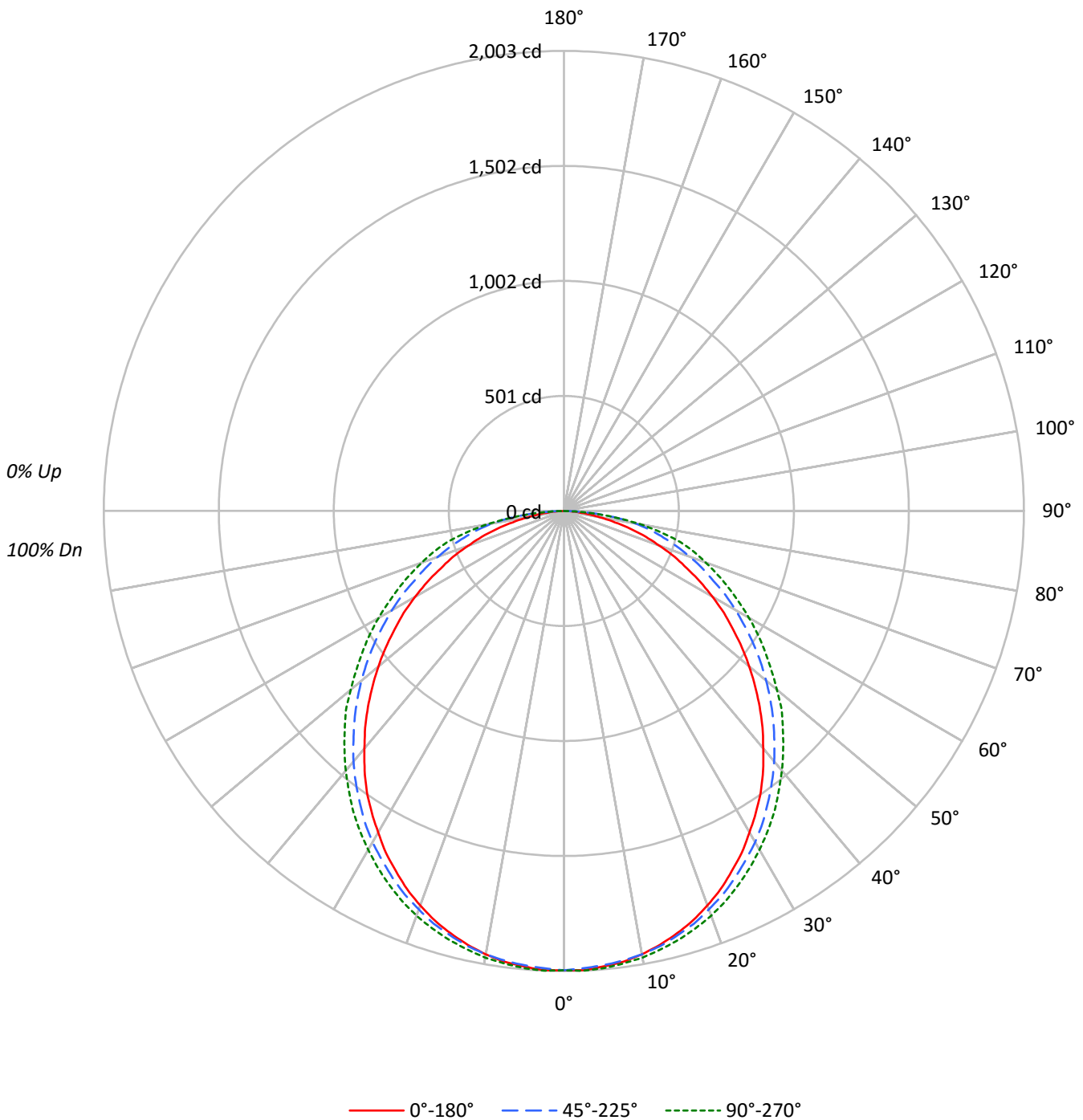
Input Watts (W): 52.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2690	2690	2690
5°	2689	2681	2698
10°	2678	2678	2697
15°	2652	2665	2692
20°	2617	2643	2685
25°	2569	2617	2668
30°	2511	2587	2646
35°	2456	2545	2625
40°	2372	2502	2594
45°	2295	2453	2567
50°	2206	2407	2536
55°	2108	2362	2511
60°	2009	2326	2506
65°	1882	2285	2521
70°	1743	2297	2589
75°	1560	2340	2735
80°	1261	2479	2676
85°	949	2177	2121



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.3	3.3
10°-20°	540.9	9.5
20°-30°	813.1	14.3
30°-40°	968.6	17.0
40°-50°	991.3	17.4
50°-60°	892.4	15.7
60°-70°	700.8	12.3
70°-80°	454.9	8.0
80°-90°	140.7	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°	1543.3	27.1
0°-40°	2511.9	44.1
0°-60°	4395.6	77.2
0°-90°	5692.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5692.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2000	2000	2000	2000	2000	
5°	1991	1994	1985	1996	1998	189
15°	1904	1909	1913	1929	1933	537
25°	1730	1745	1763	1792	1797	797
35°	1495	1513	1549	1587	1598	933
45°	1206	1235	1289	1338	1349	930
55°	899	938	1007	1060	1070	806
65°	591	636	718	777	792	589
75°	300	358	450	512	526	318
85°	62	114	141	137	137	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1999.6	1999.6	1999.6	1999.6	1999.6
2.5°	2001.4	2001.4	1992.4	2001.4	2003.3
5°	1990.6	1994.2	1985.2	1996.0	1997.8
7.5°	1979.7	1979.7	1974.3	1985.2	1987.0
10°	1959.9	1961.7	1959.9	1972.5	1974.3
12.5°	1934.5	1938.2	1940.0	1952.6	1954.4
15°	1903.8	1909.2	1912.9	1929.1	1932.7
17.5°	1869.5	1874.9	1883.9	1902.0	1905.6
20°	1827.9	1835.1	1846.0	1869.5	1874.9
22.5°	1782.7	1789.9	1808.0	1829.7	1838.7
25°	1730.2	1744.7	1762.8	1791.7	1797.1
27.5°	1677.8	1690.5	1714.0	1744.7	1751.9
30°	1616.3	1636.2	1665.2	1695.9	1703.1
32.5°	1556.7	1576.6	1610.9	1643.5	1652.5
35°	1495.2	1513.3	1549.4	1587.4	1598.3
37.5°	1424.7	1448.2	1488.0	1525.9	1536.8
40°	1350.6	1379.5	1424.7	1464.5	1477.1
42.5°	1280.1	1310.8	1356.0	1399.4	1413.8
45°	1205.9	1234.9	1289.1	1337.9	1348.8
47.5°	1130.0	1162.5	1220.4	1269.2	1287.3
50°	1054.1	1088.4	1149.9	1200.5	1211.4
52.5°	978.1	1014.3	1079.4	1133.6	1139.0
55°	898.6	938.3	1007.1	1059.5	1070.3
57.5°	826.3	860.6	934.7	989.0	1001.6
60°	746.7	784.7	864.2	914.8	931.1
62.5°	670.8	710.5	793.7	844.3	858.8
65°	591.2	636.4	717.8	777.4	791.9
67.5°	522.5	565.9	652.7	710.5	725.0
70°	443.0	491.8	584.0	643.6	658.1
72.5°	374.3	424.9	517.1	574.9	596.6
75°	300.1	358.0	450.2	511.7	526.1
77.5°	227.8	294.7	388.7	435.7	435.7
80°	162.7	233.2	320.0	341.7	345.3
82.5°	106.7	175.4	236.8	235.0	235.0
85°	61.5	113.9	141.0	137.4	137.4
87.5°	23.5	47.0	50.6	50.6	48.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)