

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: P311734

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-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: P311734  
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-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**

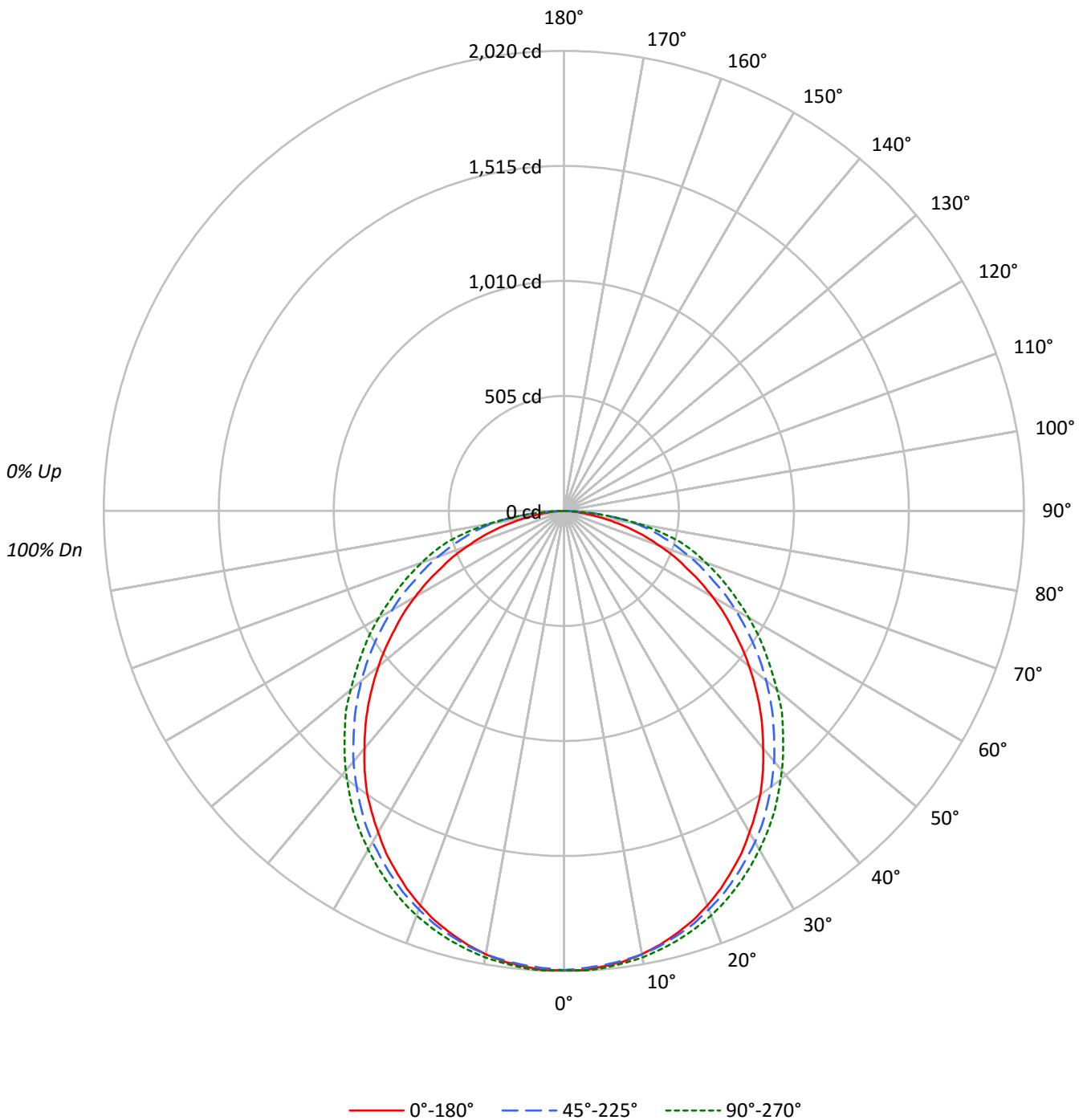
Lumens per Lamp: N/A  
Luminaire Lumens: 5739.0 lumens  
Efficiency: N/A  
Efficacy: 108.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 52.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	2713	2713	2713
5°	2711	2703	2721
10°	2700	2700	2720
15°	2674	2686	2714
20°	2639	2665	2707
25°	2590	2639	2690
30°	2532	2608	2668
35°	2476	2566	2647
40°	2392	2523	2616
45°	2314	2473	2588
50°	2225	2427	2557
55°	2125	2382	2532
60°	2026	2345	2526
65°	1898	2304	2542
70°	1757	2316	2610
75°	1573	2360	2758
80°	1272	2500	2698
85°	957	2195	2138



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	190.9	3.3
10°-20°	545.4	9.5
20°-30°	819.8	14.3
30°-40°	976.6	17.0
40°-50°	999.5	17.4
50°-60°	899.8	15.7
60°-70°	706.6	12.3
70°-80°	458.6	8.0
80°-90°	141.8	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°	1556.1	27.1
0°-40°	2532.6	44.1
0°-60°	4431.9	77.2
0°-90°	5739.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5739.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2016	2016	2016	2016	2016	
5°	2007	2011	2002	2012	2014	191
15°	1920	1925	1929	1945	1949	541
25°	1744	1759	1777	1806	1812	804
35°	1508	1526	1562	1600	1612	940
45°	1216	1245	1300	1349	1360	937
55°	906	946	1015	1068	1079	812
65°	596	642	724	784	798	593
75°	303	361	454	516	530	320
85°	62	115	142	138	138	75
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2016.1	2016.1	2016.1	2016.1	2016.1
2.5°	2018.0	2018.0	2008.9	2018.0	2019.8
5°	2007.0	2010.7	2001.6	2012.5	2014.3
7.5°	1996.1	1996.1	1990.6	2001.6	2003.4
10°	1976.0	1977.9	1976.0	1988.8	1990.6
12.5°	1950.5	1954.2	1956.0	1968.8	1970.6
15°	1919.5	1925.0	1928.6	1945.1	1948.7
17.5°	1884.9	1890.4	1899.5	1917.7	1921.4
20°	1843.0	1850.3	1861.2	1884.9	1890.4
22.5°	1797.4	1804.7	1822.9	1844.8	1853.9
25°	1744.5	1759.1	1777.3	1806.5	1812.0
27.5°	1691.7	1704.4	1728.1	1759.1	1766.4
30°	1629.7	1649.7	1678.9	1709.9	1717.2
32.5°	1569.5	1589.6	1624.2	1657.0	1666.1
35°	1507.6	1525.8	1562.2	1600.5	1611.5
37.5°	1436.5	1460.2	1500.3	1538.5	1549.5
40°	1361.7	1390.9	1436.5	1476.6	1489.3
42.5°	1290.6	1321.6	1367.2	1410.9	1425.5
45°	1215.9	1245.1	1299.7	1349.0	1359.9
47.5°	1139.3	1172.1	1230.5	1279.7	1297.9
50°	1062.8	1097.4	1159.4	1210.4	1221.4
52.5°	986.2	1022.7	1088.3	1143.0	1148.4
55°	906.0	946.1	1015.4	1068.2	1079.2
57.5°	833.1	867.7	942.4	997.1	1009.9
60°	752.9	791.1	871.4	922.4	938.8
62.5°	676.3	716.4	800.3	851.3	865.9
65°	596.1	641.7	723.7	783.9	798.4
67.5°	526.8	570.6	658.1	716.4	731.0
70°	446.6	495.8	588.8	649.0	663.5
72.5°	377.3	428.4	521.4	579.7	601.6
75°	302.6	360.9	453.9	515.9	530.5
77.5°	229.7	297.1	391.9	439.3	439.3
80°	164.1	235.2	322.7	344.5	348.2
82.5°	107.6	176.8	238.8	237.0	237.0
85°	62.0	114.8	142.2	138.5	138.5
87.5°	23.7	47.4	51.0	51.0	49.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)