

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: P311736

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CP187-W2A-U-4500K**

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: P311736
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4500K 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: 5969.0 lumens
Efficiency: N/A
Efficacy: 111.4 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

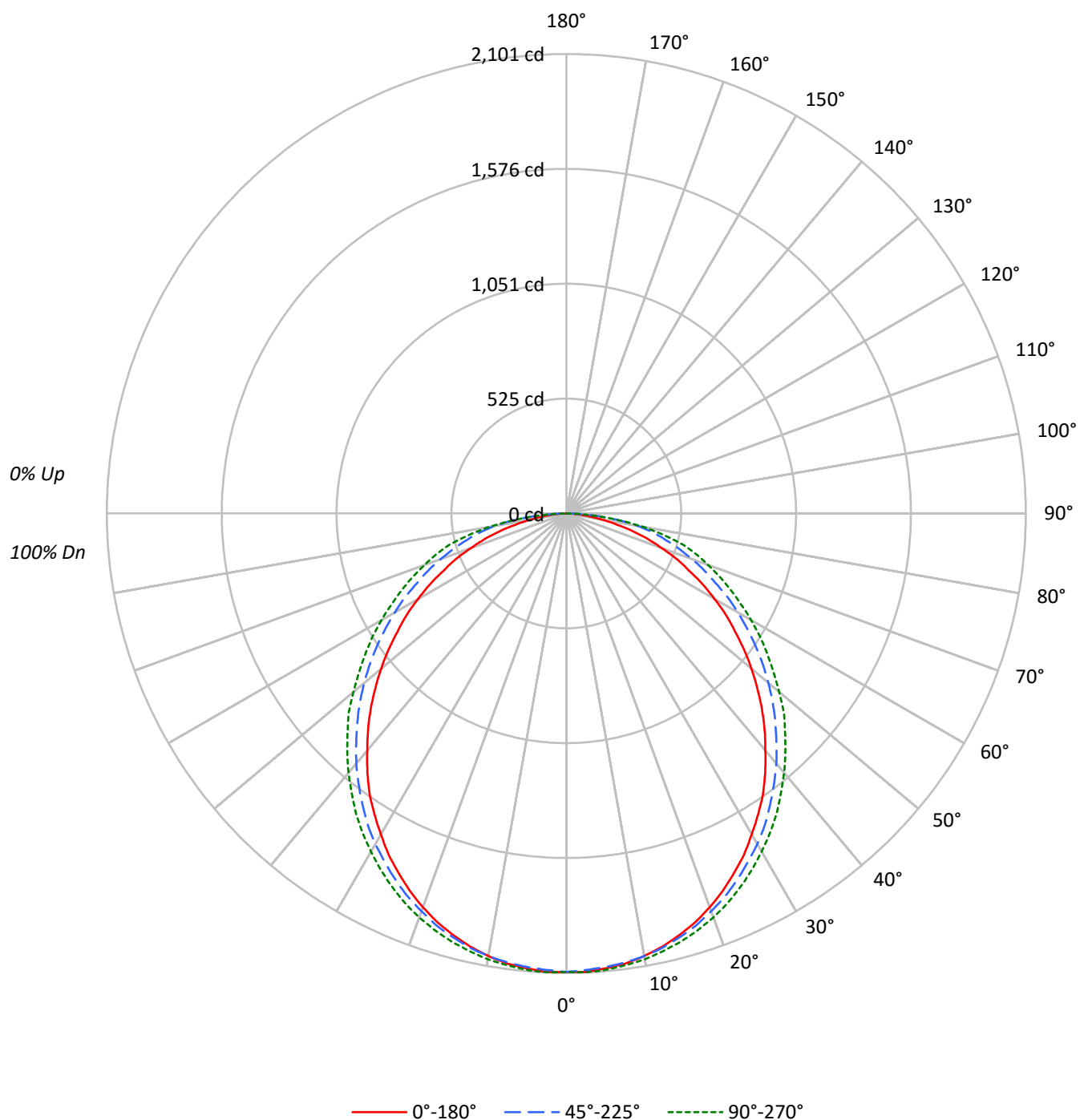
Input Watts (W): 53.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2821	2821	2821
5°	2819	2812	2830
10°	2808	2808	2829
15°	2781	2794	2823
20°	2745	2772	2815
25°	2694	2744	2798
30°	2633	2713	2775
35°	2576	2669	2753
40°	2488	2624	2721
45°	2406	2572	2691
50°	2314	2524	2659
55°	2210	2477	2633
60°	2107	2439	2627
65°	1974	2396	2644
70°	1827	2409	2715
75°	1636	2454	2868
80°	1322	2600	2806
85°	996	2283	2225



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	198.5	3.3
10°-20°	567.2	9.5
20°-30°	852.7	14.3
30°-40°	1015.7	17.0
40°-50°	1039.5	17.4
50°-60°	935.9	15.7
60°-70°	734.9	12.3
70°-80°	477.0	8.0
80°-90°	147.5	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°	1618.4	27.1
0°-40°	2634.1	44.1
0°-60°	4609.5	77.2
0°-90°	5969.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5969.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2097	2097	2097	2097	2097	
5°	2088	2091	2082	2093	2095	198
15°	1996	2002	2006	2023	2027	563
25°	1814	1830	1849	1879	1885	836
35°	1568	1587	1625	1665	1676	978
45°	1265	1295	1352	1403	1414	975
55°	942	984	1056	1111	1122	845
65°	620	667	753	815	830	617
75°	315	375	472	537	552	333
85°	64	119	148	144	144	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2096.9	2096.9	2096.9	2096.9	2096.9
2.5°	2098.8	2098.8	2089.4	2098.8	2100.7
5°	2087.5	2091.3	2081.8	2093.2	2095.1
7.5°	2076.1	2076.1	2070.4	2081.8	2083.7
10°	2055.2	2057.1	2055.2	2068.5	2070.4
12.5°	2028.7	2032.5	2034.4	2047.7	2049.5
15°	1996.5	2002.1	2005.9	2023.0	2026.8
17.5°	1960.4	1966.1	1975.6	1994.6	1998.4
20°	1916.8	1924.4	1935.8	1960.4	1966.1
22.5°	1869.4	1877.0	1896.0	1918.7	1928.2
25°	1814.4	1829.6	1848.6	1878.9	1884.6
27.5°	1759.5	1772.7	1797.4	1829.6	1837.2
30°	1695.0	1715.9	1746.2	1778.4	1786.0
32.5°	1632.4	1653.3	1689.3	1723.4	1732.9
35°	1568.0	1586.9	1624.9	1664.7	1676.0
37.5°	1494.0	1518.7	1560.4	1600.2	1611.6
40°	1416.3	1446.6	1494.0	1535.7	1549.0
42.5°	1342.4	1374.6	1422.0	1467.5	1482.7
45°	1264.6	1295.0	1351.8	1403.0	1414.4
47.5°	1185.0	1219.1	1279.8	1331.0	1349.9
50°	1105.4	1141.4	1205.8	1258.9	1270.3
52.5°	1025.7	1063.6	1131.9	1188.8	1194.5
55°	942.3	984.0	1056.1	1111.0	1122.4
57.5°	866.5	902.5	980.2	1037.1	1050.4
60°	783.0	822.9	906.3	959.4	976.4
62.5°	703.4	745.1	832.3	885.4	900.6
65°	620.0	667.4	752.7	815.3	830.4
67.5°	547.9	593.4	684.4	745.1	760.3
70°	464.5	515.7	612.4	675.0	690.1
72.5°	392.5	445.6	542.2	602.9	625.7
75°	314.7	375.4	472.1	536.6	551.7
77.5°	238.9	309.0	407.6	456.9	456.9
80°	170.6	244.6	335.6	358.3	362.1
82.5°	111.9	183.9	248.4	246.5	246.5
85°	64.5	119.4	147.9	144.1	144.1
87.5°	24.6	49.3	53.1	53.1	51.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)