

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: P311732

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CP187-W2A-U-2700K**

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: P311732
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-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 2700K 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: 5391.0 lumens
Efficiency: N/A
Efficacy: 102.5 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

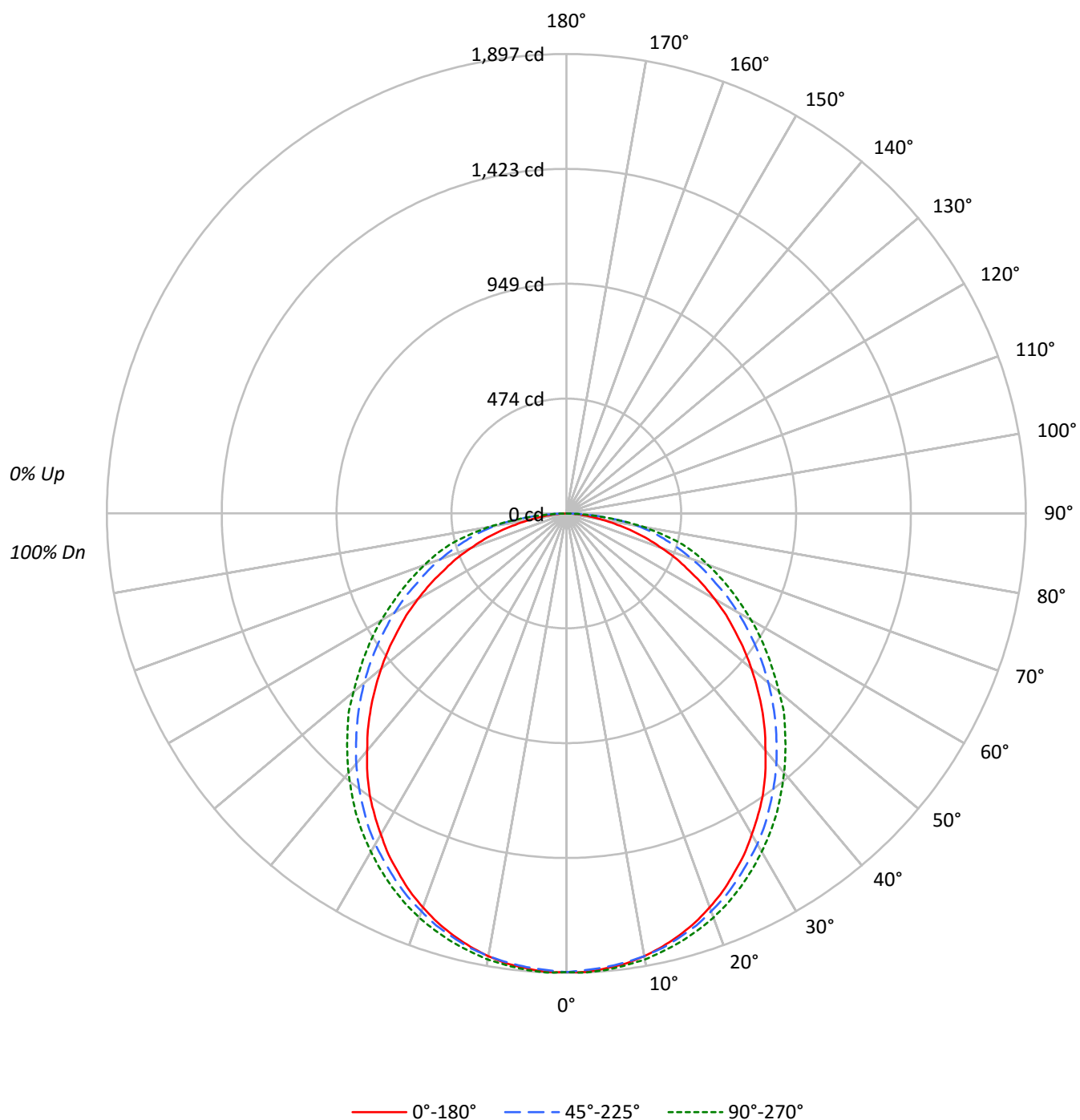
Input Watts (W): 52.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2548	2548	2548
5°	2546	2539	2556
10°	2536	2536	2555
15°	2512	2524	2550
20°	2479	2503	2543
25°	2433	2479	2527
30°	2378	2450	2506
35°	2326	2410	2486
40°	2247	2370	2457
45°	2173	2323	2431
50°	2090	2280	2402
55°	1997	2237	2378
60°	1903	2203	2373
65°	1783	2164	2388
70°	1650	2176	2452
75°	1478	2217	2590
80°	1194	2349	2534
85°	898	2062	2008



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.3	3.3
10°-20°	512.3	9.5
20°-30°	770.1	14.3
30°-40°	917.3	17.0
40°-50°	938.9	17.4
50°-60°	845.3	15.7
60°-70°	663.8	12.3
70°-80°	430.8	8.0
80°-90°	133.2	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°	1461.7	27.1
0°-40°	2379.1	44.1
0°-60°	4163.2	77.2
0°-90°	5391.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5391.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1894	1894	1894	1894	1894	
5°	1885	1889	1880	1890	1892	179
15°	1803	1808	1812	1827	1830	508
25°	1639	1652	1670	1697	1702	755
35°	1416	1433	1468	1504	1514	883
45°	1142	1170	1221	1267	1277	881
55°	851	889	954	1004	1014	763
65°	560	603	680	736	750	557
75°	284	339	426	485	498	301
85°	58	108	134	130	130	70
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1893.9	1893.9	1893.9	1893.9	1893.9
2.5°	1895.6	1895.6	1887.0	1895.6	1897.3
5°	1885.3	1888.8	1880.2	1890.5	1892.2
7.5°	1875.1	1875.1	1869.9	1880.2	1881.9
10°	1856.2	1857.9	1856.2	1868.2	1869.9
12.5°	1832.2	1835.7	1837.4	1849.4	1851.1
15°	1803.1	1808.3	1811.7	1827.1	1830.5
17.5°	1770.6	1775.7	1784.3	1801.4	1804.8
20°	1731.2	1738.1	1748.3	1770.6	1775.7
22.5°	1688.4	1695.3	1712.4	1732.9	1741.5
25°	1638.7	1652.4	1669.6	1697.0	1702.1
27.5°	1589.1	1601.1	1623.3	1652.4	1659.3
30°	1530.9	1549.7	1577.1	1606.2	1613.1
32.5°	1474.4	1493.2	1525.7	1556.6	1565.1
35°	1416.1	1433.3	1467.5	1503.5	1513.7
37.5°	1349.4	1371.6	1409.3	1445.2	1455.5
40°	1279.1	1306.5	1349.4	1387.0	1399.0
42.5°	1212.4	1241.5	1284.3	1325.4	1339.1
45°	1142.2	1169.6	1220.9	1267.2	1277.4
47.5°	1070.2	1101.1	1155.9	1202.1	1219.2
50°	998.3	1030.9	1089.1	1137.0	1147.3
52.5°	926.4	960.6	1022.3	1073.7	1078.8
55°	851.1	888.7	953.8	1003.5	1013.7
57.5°	782.6	815.1	885.3	936.7	948.7
60°	707.2	743.2	818.5	866.5	881.9
62.5°	635.3	673.0	751.7	799.7	813.4
65°	559.9	602.8	679.8	736.3	750.0
67.5°	494.9	536.0	618.2	673.0	686.7
70°	419.5	465.8	553.1	609.6	623.3
72.5°	354.5	402.4	489.7	544.5	565.1
75°	284.3	339.1	426.4	484.6	498.3
77.5°	215.8	279.1	368.2	412.7	412.7
80°	154.1	220.9	303.1	323.6	327.1
82.5°	101.0	166.1	224.3	222.6	222.6
85°	58.2	107.9	133.6	130.1	130.1
87.5°	22.3	44.5	47.9	47.9	46.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)