

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: P311737

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CP187-W2A-U-5000K**

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: P311737
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-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 6050.0 lumens
Efficiency: N/A
Efficacy: 112.5 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

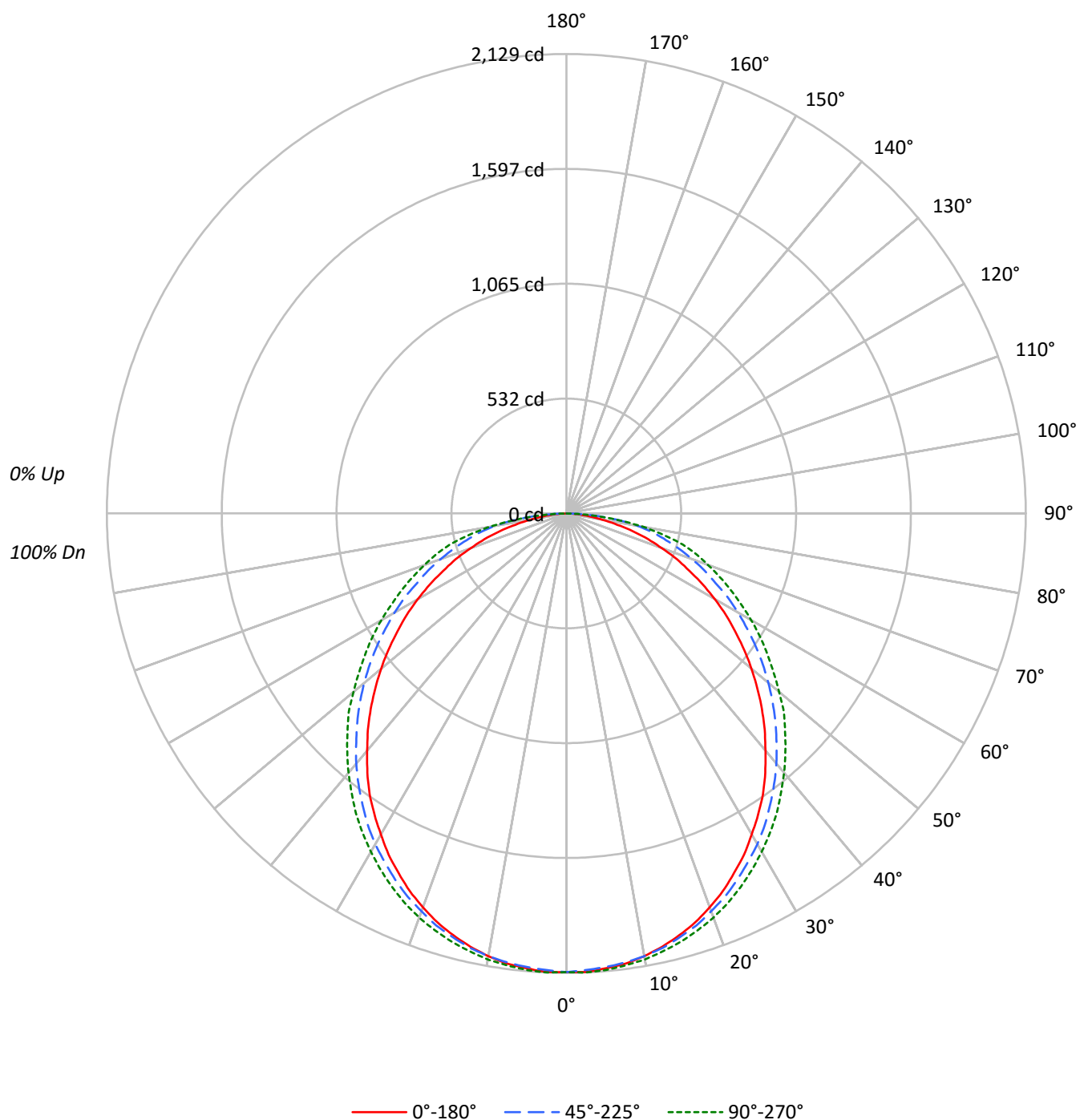
Input Watts (W): 53.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2860	2860	2860
5°	2858	2850	2868
10°	2846	2846	2867
15°	2819	2832	2862
20°	2782	2809	2853
25°	2730	2782	2836
30°	2669	2750	2812
35°	2610	2705	2790
40°	2521	2660	2758
45°	2439	2607	2728
50°	2345	2558	2695
55°	2240	2511	2669
60°	2136	2472	2663
65°	2001	2429	2680
70°	1852	2442	2752
75°	1658	2488	2907
80°	1340	2635	2844
85°	1008	2314	2254



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.2	3.3
10°-20°	574.9	9.5
20°-30°	864.3	14.3
30°-40°	1029.5	17.0
40°-50°	1053.6	17.4
50°-60°	948.6	15.7
60°-70°	744.9	12.3
70°-80°	483.5	8.0
80°-90°	149.5	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°	1640.4	27.1
0°-40°	2669.9	44.1
0°-60°	4672.1	77.2
0°-90°	6050.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6050.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2125	2125	2125	2125	2125	
5°	2116	2120	2110	2122	2124	201
15°	2024	2029	2033	2050	2054	571
25°	1839	1854	1874	1904	1910	847
35°	1589	1608	1647	1687	1699	991
45°	1282	1312	1370	1422	1434	988
55°	955	997	1070	1126	1138	856
65°	628	676	763	826	842	626
75°	319	380	478	544	559	338
85°	65	121	150	146	146	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2125.4	2125.4	2125.4	2125.4	2125.4
2.5°	2127.3	2127.3	2117.7	2127.3	2129.2
5°	2115.8	2119.6	2110.0	2121.6	2123.5
7.5°	2104.3	2104.3	2098.5	2110.0	2112.0
10°	2083.1	2085.0	2083.1	2096.6	2098.5
12.5°	2056.2	2060.1	2062.0	2075.4	2077.4
15°	2023.6	2029.3	2033.2	2050.5	2054.3
17.5°	1987.0	1992.8	2002.4	2021.6	2025.5
20°	1942.8	1950.5	1962.1	1987.0	1992.8
22.5°	1894.8	1902.5	1921.7	1944.8	1954.4
25°	1839.1	1854.4	1873.7	1904.4	1910.2
27.5°	1783.3	1796.8	1821.8	1854.4	1862.1
30°	1718.0	1739.1	1769.9	1802.6	1810.2
32.5°	1654.6	1675.7	1712.2	1746.8	1756.4
35°	1589.2	1608.5	1646.9	1687.3	1698.8
37.5°	1514.3	1539.3	1581.6	1621.9	1633.4
40°	1435.5	1466.3	1514.3	1556.6	1570.0
42.5°	1360.6	1393.2	1441.3	1487.4	1502.8
45°	1281.8	1312.5	1370.2	1422.1	1433.6
47.5°	1201.1	1235.7	1297.2	1349.0	1368.3
50°	1120.4	1156.9	1222.2	1276.0	1287.5
52.5°	1039.6	1078.1	1147.3	1204.9	1210.7
55°	955.1	997.4	1070.4	1126.1	1137.6
57.5°	878.2	914.7	993.5	1051.2	1064.6
60°	793.7	834.0	918.6	972.4	989.7
62.5°	713.0	755.2	843.6	897.4	912.8
65°	628.4	676.4	762.9	826.3	841.7
67.5°	555.4	601.5	693.7	755.2	770.6
70°	470.8	522.7	620.7	684.1	699.5
72.5°	397.8	451.6	549.6	611.1	634.2
75°	319.0	380.5	478.5	543.8	559.2
77.5°	242.1	313.2	413.2	463.1	463.1
80°	173.0	247.9	340.1	363.2	367.0
82.5°	113.4	186.4	251.7	249.8	249.8
85°	65.3	121.1	149.9	146.0	146.0
87.5°	25.0	50.0	53.8	53.8	51.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)