

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: P314482

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-S-CP187-W2A-U-4000K**

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: P314482
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-L83050-S-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4000K 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: 6169.0 lumens
Efficiency: N/A
Efficacy: 114.7 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

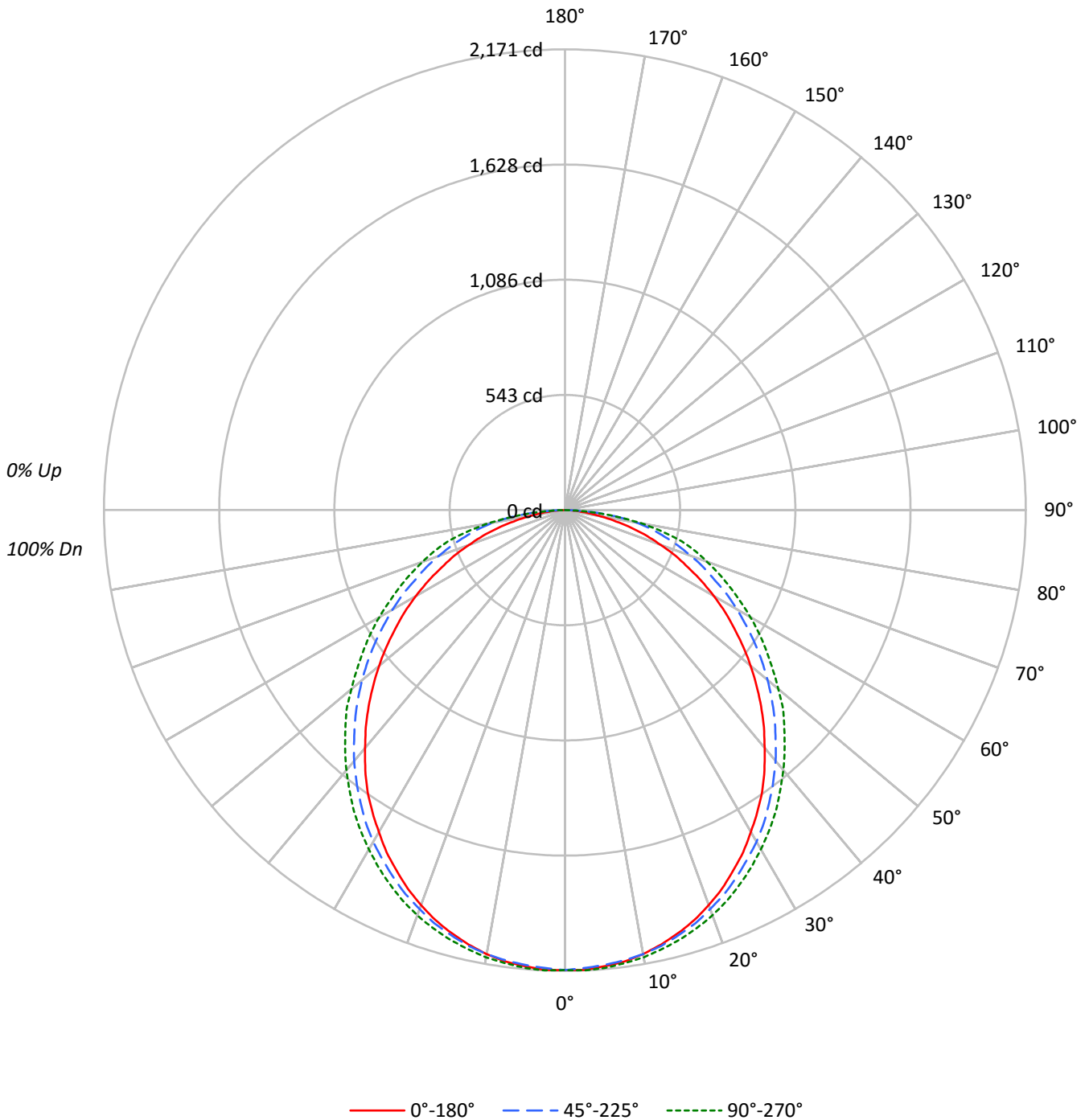
Input Watts (W): 53.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2916	2916	2916
5°	2914	2906	2925
10°	2902	2902	2923
15°	2874	2888	2918
20°	2837	2865	2909
25°	2784	2836	2892
30°	2722	2804	2868
35°	2662	2758	2845
40°	2571	2712	2812
45°	2487	2658	2782
50°	2391	2609	2748
55°	2285	2560	2721
60°	2178	2520	2715
65°	2040	2477	2733
70°	1889	2490	2806
75°	1691	2536	2964
80°	1367	2687	2900
85°	1028	2359	2299



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.2	3.3
10°-20°	586.2	9.5
20°-30°	881.3	14.3
30°-40°	1049.7	17.0
40°-50°	1074.3	17.4
50°-60°	967.2	15.7
60°-70°	759.6	12.3
70°-80°	493.0	8.0
80°-90°	152.5	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°	1672.7	27.1
0°-40°	2722.4	44.1
0°-60°	4764.0	77.2
0°-90°	6169.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6169.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2167	2167	2167	2167	2167	
5°	2157	2161	2152	2163	2165	205
15°	2063	2069	2073	2091	2095	582
25°	1875	1891	1910	1942	1948	864
35°	1620	1640	1679	1720	1732	1011
45°	1307	1338	1397	1450	1462	1008
55°	974	1017	1091	1148	1160	873
65°	641	690	778	843	858	638
75°	325	388	488	554	570	344
85°	67	123	153	149	149	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2167.2	2167.2	2167.2	2167.2	2167.2
2.5°	2169.2	2169.2	2159.4	2169.2	2171.1
5°	2157.4	2161.3	2151.5	2163.3	2165.3
7.5°	2145.7	2145.7	2139.8	2151.5	2153.5
10°	2124.1	2126.1	2124.1	2137.8	2139.8
12.5°	2096.7	2100.6	2102.5	2116.3	2118.2
15°	2063.4	2069.2	2073.2	2090.8	2094.7
17.5°	2026.1	2032.0	2041.8	2061.4	2065.3
20°	1981.1	1988.9	2000.7	2026.1	2032.0
22.5°	1932.1	1939.9	1959.5	1983.0	1992.8
25°	1875.2	1890.9	1910.5	1941.9	1947.7
27.5°	1818.4	1832.1	1857.6	1890.9	1898.8
30°	1751.8	1773.3	1804.7	1838.0	1845.9
32.5°	1687.1	1708.7	1745.9	1781.2	1791.0
35°	1620.5	1640.1	1679.3	1720.4	1732.2
37.5°	1544.1	1569.6	1612.7	1653.8	1665.6
40°	1463.7	1495.1	1544.1	1587.2	1600.9
42.5°	1387.3	1420.6	1469.6	1516.7	1532.3
45°	1307.0	1338.3	1397.1	1450.0	1461.8
47.5°	1224.7	1260.0	1322.7	1375.6	1395.2
50°	1142.4	1179.6	1246.2	1301.1	1312.9
52.5°	1060.1	1099.3	1169.8	1228.6	1234.5
55°	973.9	1017.0	1091.4	1148.3	1160.0
57.5°	895.5	932.7	1013.1	1071.8	1085.6
60°	809.3	850.4	936.6	991.5	1009.1
62.5°	727.0	770.1	860.2	915.1	930.8
65°	640.8	689.7	777.9	842.6	858.3
67.5°	566.3	613.3	707.4	770.1	785.8
70°	480.1	533.0	632.9	697.6	713.3
72.5°	405.6	460.5	560.4	623.1	646.6
75°	325.3	388.0	487.9	554.5	570.2
77.5°	246.9	319.4	421.3	472.2	472.2
80°	176.4	252.8	346.8	370.3	374.3
82.5°	115.6	190.1	256.7	254.7	254.7
85°	66.6	123.4	152.8	148.9	148.9
87.5°	25.5	50.9	54.9	54.9	52.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)