

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: P311064

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-CP187-W2A-U-5700K**

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: P311064
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5700K 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: 5829.0 lumens
Efficiency: N/A
Efficacy: 107.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

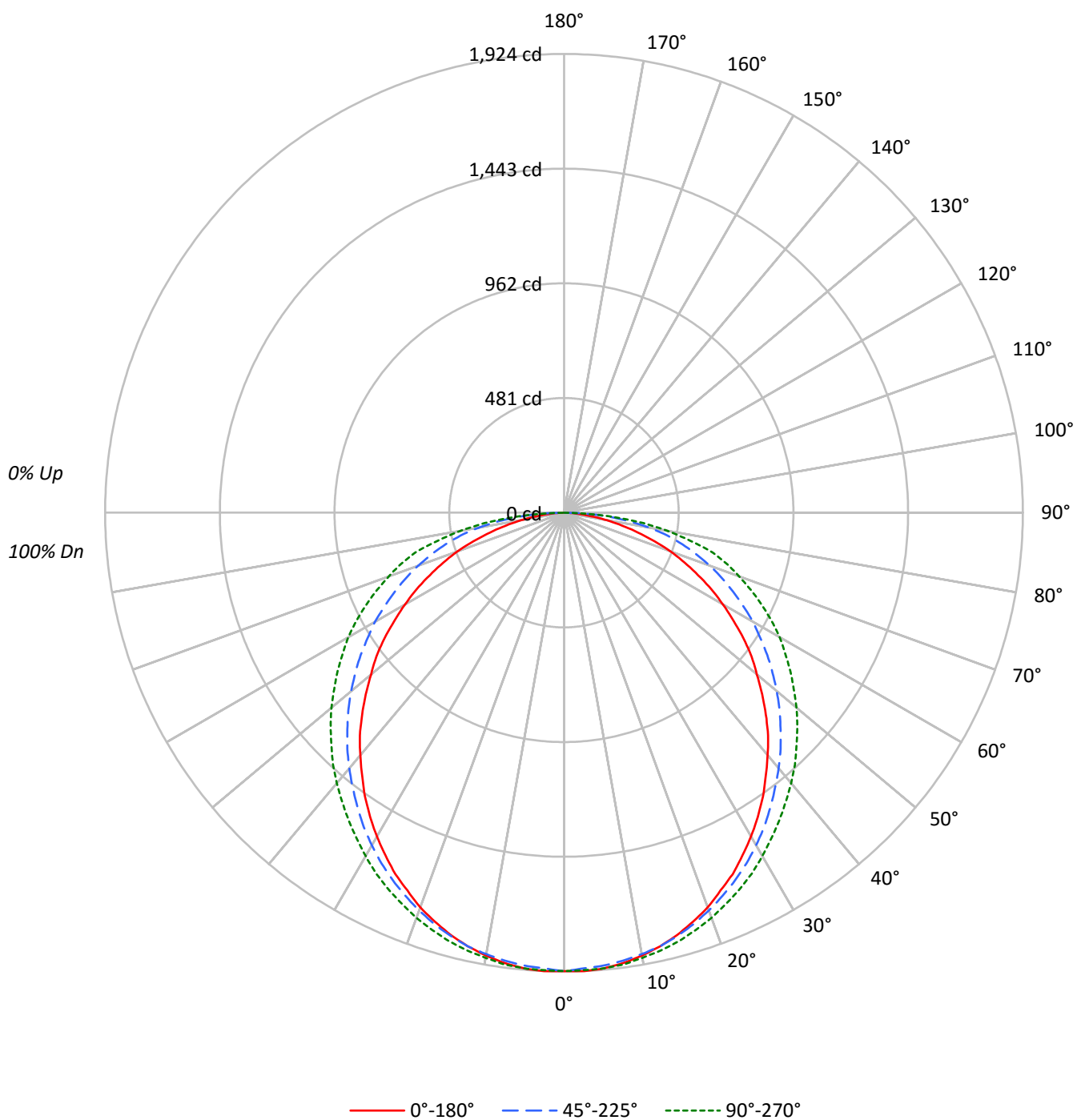
Input Watts (W): 54.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2587	2587	2587
5°	2591	2576	2591
10°	2576	2568	2589
15°	2554	2559	2592
20°	2523	2542	2589
25°	2484	2524	2587
30°	2437	2503	2584
35°	2389	2478	2586
40°	2334	2459	2602
45°	2278	2443	2624
50°	2210	2437	2664
55°	2155	2441	2717
60°	2071	2462	2810
65°	1976	2487	2912
70°	1872	2564	3074
75°	1669	2674	3358
80°	1423	2832	3432
85°	1016	2807	3284



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.9	3.1
10°-20°	520.2	8.9
20°-30°	785.7	13.5
30°-40°	947.0	16.2
40°-50°	994.1	17.1
50°-60°	930.1	16.0
60°-70°	768.1	13.2
70°-80°	523.4	9.0
80°-90°	178.5	3.1
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°	1487.8	25.5
0°-40°	2434.8	41.8
0°-60°	4359.0	74.8
0°-90°	5829.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5829.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1922	1922	1922	1922	1922	
5°	1918	1917	1907	1918	1918	182
15°	1833	1835	1837	1857	1860	517
25°	1673	1681	1700	1733	1742	770
35°	1454	1470	1508	1559	1574	909
45°	1197	1222	1284	1354	1379	923
55°	919	955	1040	1126	1158	820
65°	621	673	781	880	915	616
75°	321	394	514	611	646	342
85°	66	130	182	205	213	82
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1922.4	1922.4	1922.4	1922.4	1922.4
2.5°	1924.3	1922.4	1912.7	1922.4	1920.4
5°	1918.5	1916.6	1906.9	1918.5	1918.5
7.5°	1904.9	1904.9	1895.3	1908.8	1910.7
10°	1885.6	1885.6	1879.8	1895.3	1895.3
12.5°	1862.4	1862.4	1862.4	1877.9	1879.8
15°	1833.4	1835.3	1837.3	1856.6	1860.5
17.5°	1798.6	1802.4	1808.3	1831.5	1835.3
20°	1761.8	1765.7	1775.4	1802.4	1808.3
22.5°	1715.4	1725.1	1738.6	1769.6	1775.4
25°	1672.9	1680.6	1699.9	1732.8	1742.5
27.5°	1620.7	1632.3	1657.4	1692.2	1705.8
30°	1568.4	1580.0	1611.0	1651.6	1663.2
32.5°	1512.4	1529.8	1562.6	1605.2	1618.7
35°	1454.3	1469.8	1508.5	1558.8	1574.2
37.5°	1390.5	1411.8	1454.3	1508.5	1527.8
40°	1328.6	1351.8	1400.2	1458.2	1481.4
42.5°	1266.7	1289.9	1344.1	1409.9	1433.1
45°	1197.1	1222.3	1284.1	1353.8	1378.9
47.5°	1127.5	1158.4	1226.1	1299.6	1326.7
50°	1055.9	1090.8	1164.2	1241.6	1272.5
52.5°	992.1	1025.0	1102.4	1185.5	1214.5
55°	918.6	955.4	1040.5	1125.6	1158.4
57.5°	843.2	883.8	974.7	1067.5	1100.4
60°	769.7	814.2	914.8	1007.6	1044.3
62.5°	698.2	742.6	847.1	943.8	980.5
65°	620.8	673.0	781.3	880.0	914.8
67.5°	547.3	603.4	717.5	814.2	849.0
70°	475.8	529.9	651.7	746.5	781.3
72.5°	398.4	460.3	582.1	680.8	717.5
75°	321.0	394.5	514.4	611.1	645.9
77.5°	249.5	324.9	444.8	524.1	541.5
80°	183.7	261.1	365.5	421.6	442.9
82.5°	118.0	195.3	278.5	319.1	336.5
85°	65.8	129.6	181.8	205.0	212.7
87.5°	27.1	56.1	73.5	83.2	83.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)