

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: P314106

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-CP187-W2A-U-3500K**

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: P314106
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-L83050-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 3500K 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: 5592.0 lumens
Efficiency: N/A
Efficacy: 106.3 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

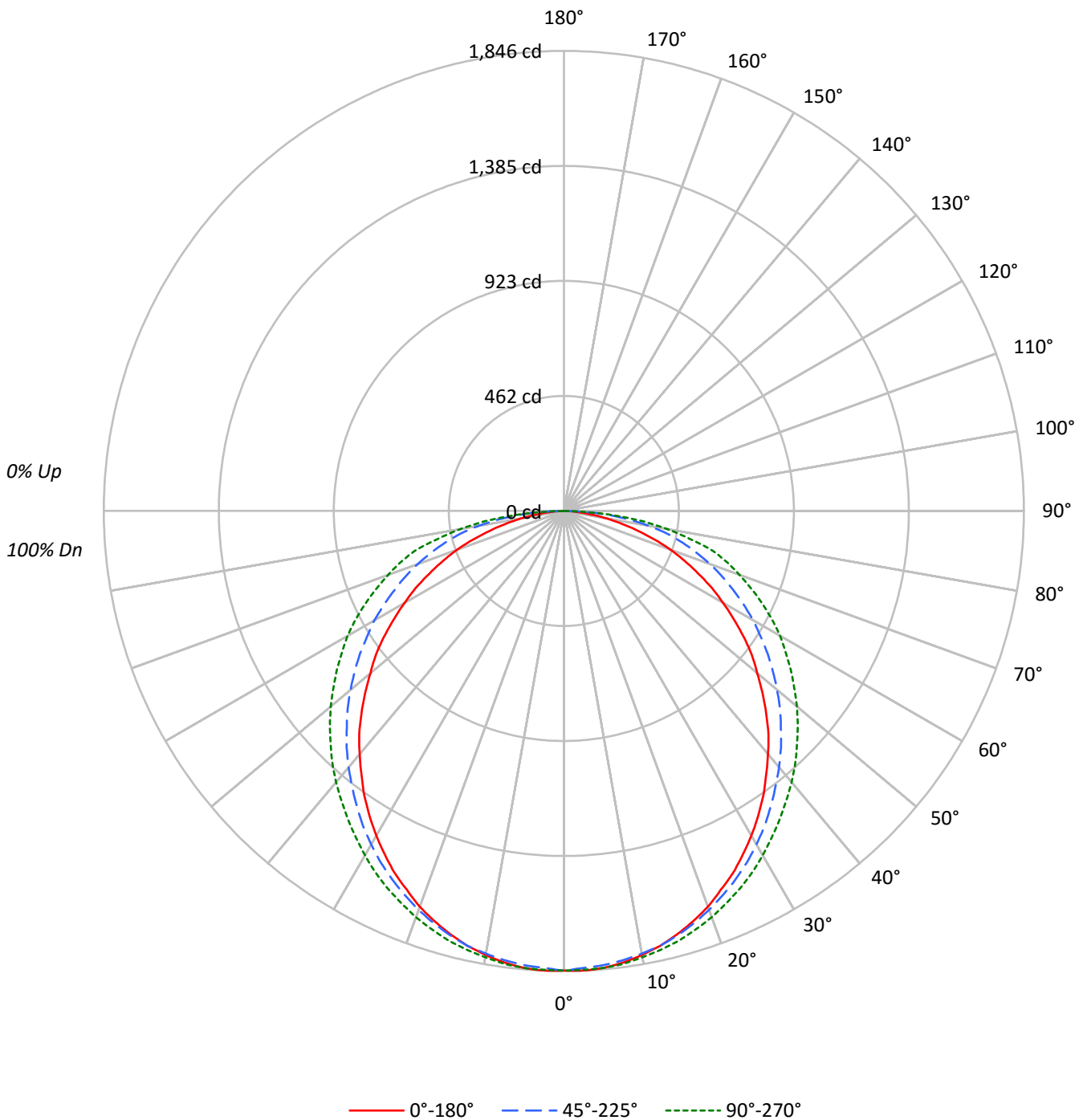
Input Watts (W): 52.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2481	2481	2481
5°	2486	2471	2486
10°	2471	2464	2484
15°	2450	2455	2486
20°	2420	2439	2484
25°	2383	2421	2482
30°	2338	2401	2479
35°	2292	2377	2481
40°	2239	2359	2496
45°	2185	2344	2517
50°	2120	2338	2555
55°	2067	2342	2607
60°	1987	2362	2696
65°	1896	2387	2794
70°	1795	2460	2949
75°	1601	2565	3222
80°	1366	2717	3292
85°	974	2692	3151



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.5	3.1
10°-20°	499.1	8.9
20°-30°	753.8	13.5
30°-40°	908.5	16.2
40°-50°	953.7	17.1
50°-60°	892.3	16.0
60°-70°	736.9	13.2
70°-80°	502.1	9.0
80°-90°	171.3	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°	1427.4	25.5
0°-40°	2335.8	41.8
0°-60°	4181.8	74.8
0°-90°	5592.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5592.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1844	1844	1844	1844	1844	
5°	1840	1839	1829	1840	1840	175
15°	1759	1761	1763	1781	1785	496
25°	1605	1612	1631	1662	1672	738
35°	1395	1410	1447	1495	1510	872
45°	1148	1173	1232	1299	1323	886
55°	881	916	998	1080	1111	787
65°	596	646	750	844	878	591
75°	308	378	494	586	620	328
85°	63	124	174	197	204	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1844.2	1844.2	1844.2	1844.2	1844.2
2.5°	1846.0	1844.2	1834.9	1844.2	1842.3
5°	1840.5	1838.6	1829.4	1840.5	1840.5
7.5°	1827.5	1827.5	1818.2	1831.2	1833.1
10°	1808.9	1808.9	1803.4	1818.2	1818.2
12.5°	1786.7	1786.7	1786.7	1801.5	1803.4
15°	1758.8	1760.7	1762.6	1781.1	1784.8
17.5°	1725.5	1729.2	1734.7	1757.0	1760.7
20°	1690.2	1693.9	1703.2	1729.2	1734.7
22.5°	1645.7	1654.9	1667.9	1697.6	1703.2
25°	1604.9	1612.3	1630.8	1662.4	1671.6
27.5°	1554.8	1565.9	1590.0	1623.4	1636.4
30°	1504.7	1515.8	1545.5	1584.4	1595.6
32.5°	1450.9	1467.6	1499.1	1539.9	1552.9
35°	1395.2	1410.0	1447.2	1495.4	1510.2
37.5°	1334.0	1354.4	1395.2	1447.2	1465.7
40°	1274.6	1296.9	1343.3	1398.9	1421.2
42.5°	1215.2	1237.5	1289.5	1352.5	1374.8
45°	1148.4	1172.6	1231.9	1298.7	1322.8
47.5°	1081.7	1111.3	1176.3	1246.8	1272.8
50°	1013.0	1046.4	1116.9	1191.1	1220.8
52.5°	951.8	983.3	1057.5	1137.3	1165.1
55°	881.3	916.5	998.2	1079.8	1111.3
57.5°	808.9	847.9	935.1	1024.1	1055.7
60°	738.4	781.1	877.6	966.6	1001.9
62.5°	669.8	712.4	812.6	905.4	940.6
65°	595.6	645.7	749.6	844.2	877.6
67.5°	525.1	578.9	688.3	781.1	814.5
70°	456.4	508.4	625.2	716.2	749.6
72.5°	382.2	441.6	558.5	653.1	688.3
75°	308.0	378.5	493.5	586.3	619.7
77.5°	239.3	311.7	426.7	502.8	519.5
80°	176.3	250.5	350.7	404.5	424.9
82.5°	113.2	187.4	267.2	306.1	322.8
85°	63.1	124.3	174.4	196.7	204.1
87.5°	26.0	53.8	70.5	79.8	79.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)