

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: P314130

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-CP187-W2A-U-3000K**

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: P314130
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: 24FCZ2-70HE-UNV-L83050-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 3000K 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: 5700.0 lumens
Efficiency: N/A
Efficacy: 99.0 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

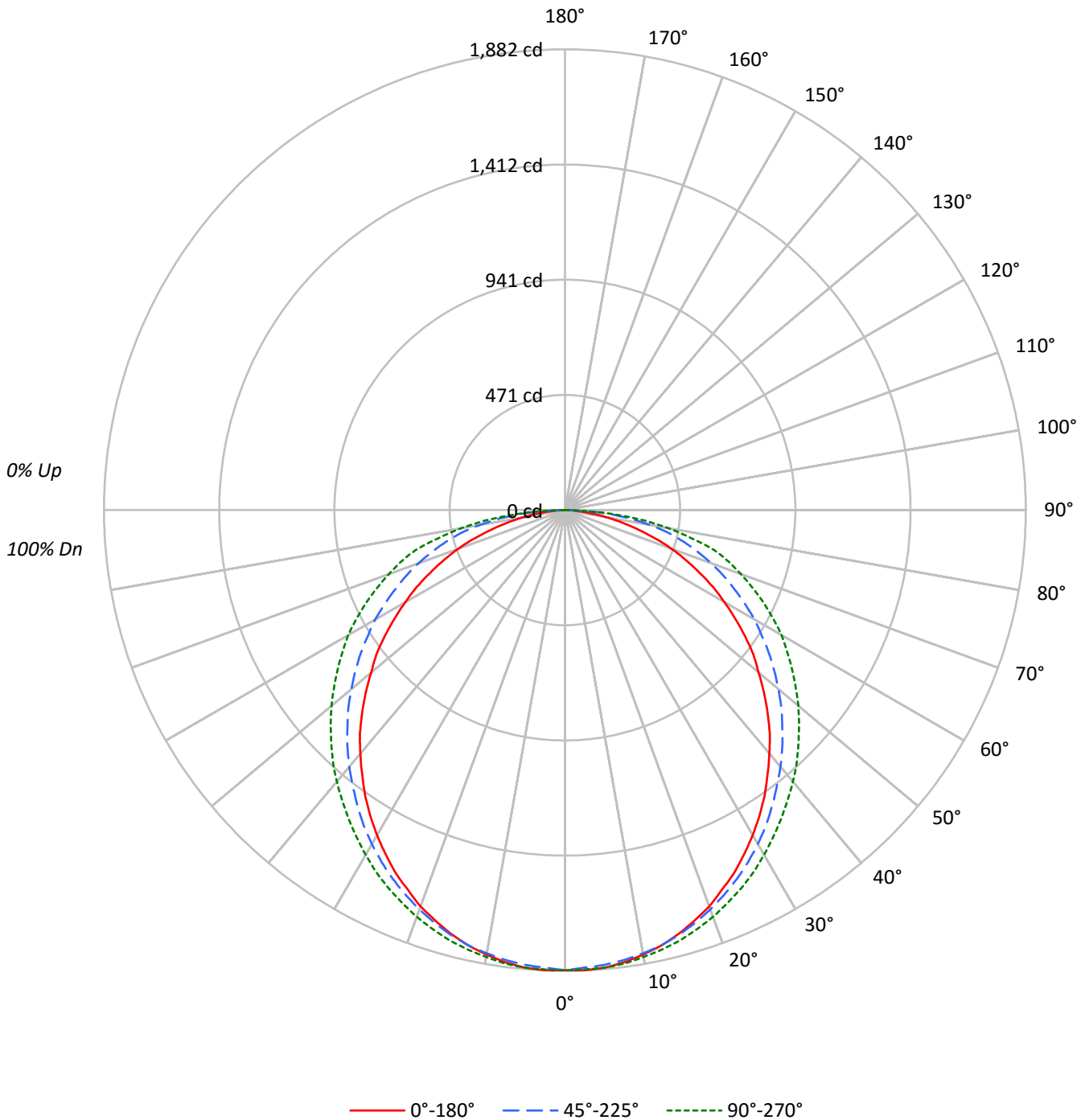
Input Watts (W): 57.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P314130

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-CP187-W2A-U-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P314130

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-CP187-W2A-U-3000K

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°	2529	2529	2529
5°	2534	2519	2534
10°	2519	2511	2532
15°	2497	2503	2534
20°	2467	2486	2532
25°	2429	2468	2530
30°	2383	2447	2527
35°	2336	2423	2529
40°	2282	2405	2544
45°	2227	2389	2566
50°	2161	2383	2605
55°	2107	2387	2657
60°	2025	2407	2748
65°	1933	2432	2848
70°	1830	2507	3006
75°	1632	2615	3283
80°	1392	2769	3356
85°	993	2745	3211



TEST NUMBER: P314130

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-CP187-W2A-U-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.9	3.1
10°-20°	508.7	8.9
20°-30°	768.3	13.5
30°-40°	926.0	16.2
40°-50°	972.1	17.1
50°-60°	909.5	16.0
60°-70°	751.1	13.2
70°-80°	511.8	9.0
80°-90°	174.5	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°	1454.9	25.5
0°-40°	2380.9	41.8
0°-60°	4262.6	74.8
0°-90°	5700.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5700.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1880	1880	1880	1880	1880	
5°	1876	1874	1865	1876	1876	178
15°	1793	1795	1797	1816	1819	505
25°	1636	1643	1662	1694	1704	753
35°	1422	1437	1475	1524	1539	889
45°	1171	1195	1256	1324	1348	903
55°	898	934	1017	1101	1133	802
65°	607	658	764	860	894	602
75°	314	386	503	598	632	335
85°	64	127	178	200	208	81
90°	0	0	0	0	0	



TEST NUMBER: P314130

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-CP187-W2A-U-3000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1879.8	1879.8	1879.8	1879.8	1879.8
2.5°	1881.7	1879.8	1870.4	1879.8	1877.9
5°	1876.0	1874.1	1864.7	1876.0	1876.0
7.5°	1862.8	1862.8	1853.3	1866.6	1868.5
10°	1843.9	1843.9	1838.2	1853.3	1853.3
12.5°	1821.2	1821.2	1821.2	1836.3	1838.2
15°	1792.8	1794.7	1796.6	1815.5	1819.3
17.5°	1758.8	1762.6	1768.2	1790.9	1794.7
20°	1722.8	1726.6	1736.1	1762.6	1768.2
22.5°	1677.5	1686.9	1700.2	1730.4	1736.1
25°	1635.9	1643.4	1662.3	1694.5	1703.9
27.5°	1584.8	1596.1	1620.7	1654.8	1668.0
30°	1533.7	1545.1	1575.3	1615.0	1626.4
32.5°	1478.9	1495.9	1528.1	1569.7	1582.9
35°	1422.2	1437.3	1475.1	1524.3	1539.4
37.5°	1359.7	1380.5	1422.2	1475.1	1494.0
40°	1299.2	1321.9	1369.2	1425.9	1448.6
42.5°	1238.7	1261.4	1314.4	1378.7	1401.3
45°	1170.6	1195.2	1255.7	1323.8	1348.4
47.5°	1102.5	1132.8	1199.0	1270.9	1297.3
50°	1032.6	1066.6	1138.5	1214.1	1244.4
52.5°	970.2	1002.3	1078.0	1159.3	1187.6
55°	898.3	934.2	1017.4	1100.7	1132.8
57.5°	824.5	864.3	953.1	1043.9	1076.1
60°	752.7	796.2	894.5	985.3	1021.2
62.5°	682.7	726.2	828.3	922.9	958.8
65°	607.1	658.1	764.0	860.5	894.5
67.5°	535.2	590.0	701.6	796.2	830.2
70°	465.2	518.2	637.3	730.0	764.0
72.5°	389.6	450.1	569.2	665.7	701.6
75°	313.9	385.8	503.0	597.6	631.6
77.5°	244.0	317.7	435.0	512.5	529.5
80°	179.7	255.3	357.4	412.3	433.1
82.5°	115.4	191.0	272.3	312.0	329.1
85°	64.3	126.7	177.8	200.5	208.0
87.5°	26.5	54.8	71.9	81.3	81.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)