

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: P313756

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-RDP-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: P313756
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
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-RDP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 4057.0 lumens
Efficiency: N/A
Efficacy: 70.3 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

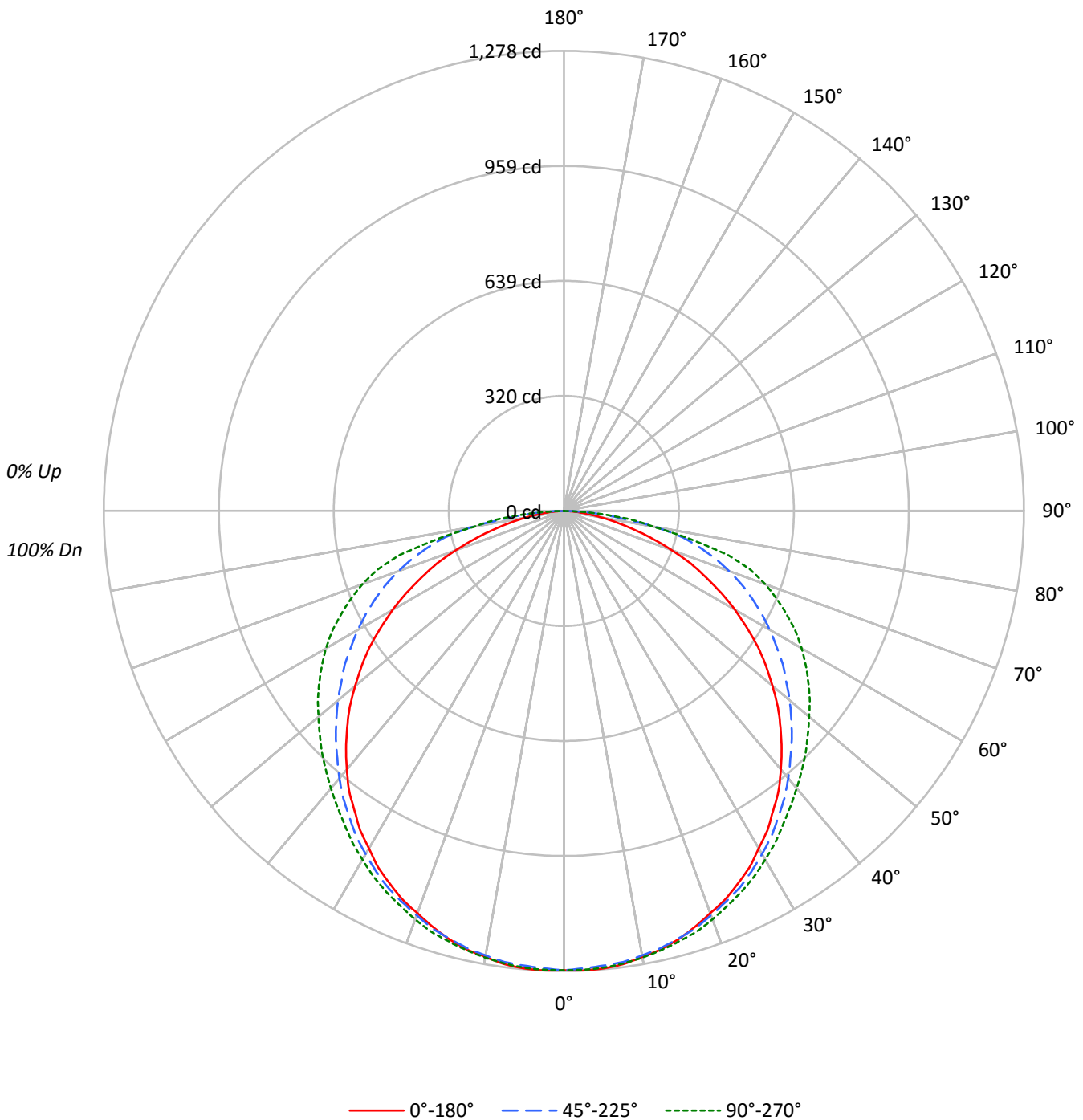
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P313756

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-RDP-CP187-W2A-U-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P313756

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-RDP-CP187-W2A-U-3500K

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	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1717	1717	1717
5°	1723	1712	1720
10°	1718	1713	1721
15°	1715	1713	1724
20°	1703	1711	1729
25°	1697	1715	1733
30°	1682	1710	1738
35°	1666	1706	1745
40°	1647	1704	1767
45°	1620	1704	1807
50°	1584	1714	1862
55°	1544	1742	1945
60°	1478	1776	2052
65°	1384	1839	2178
70°	1259	1924	2343
75°	1067	2030	2448
80°	842	2042	1980
85°	621	1553	1740



TEST NUMBER: P313756

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-RDP-CP187-W2A-U-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.0	3.0
10°-20°	348.3	8.6
20°-30°	532.6	13.1
30°-40°	651.1	16.0
40°-50°	694.0	17.1
50°-60°	663.5	16.4
60°-70°	562.1	13.9
70°-80°	377.8	9.3
80°-90°	106.6	2.6
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°	1001.9	24.7
0°-40°	1653.1	40.7
0°-60°	3010.6	74.2
0°-90°	4057.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4057.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1276	1276	1276	1276	1276	
5°	1276	1274	1268	1274	1274	121
15°	1232	1232	1230	1240	1238	347
25°	1143	1147	1155	1165	1167	527
35°	1014	1022	1038	1058	1062	635
45°	851	865	896	934	950	657
55°	658	682	742	801	829	586
65°	435	479	578	654	684	432
75°	205	280	390	457	471	220
85°	40	82	101	109	113	50
90°	0	0	0	0	0	



TEST NUMBER: P313756

CATALOG NUMBER: 24FCZ2-70HE-UNV-L83050-RDP-CP187-W2A-U-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1275.8	1275.8	1275.8	1275.8	1275.8
2.5°	1277.8	1277.8	1271.8	1275.8	1275.8
5°	1275.8	1273.8	1267.8	1273.8	1273.8
7.5°	1269.8	1267.8	1263.7	1269.8	1267.8
10°	1257.7	1257.7	1253.7	1259.7	1259.7
12.5°	1247.6	1245.6	1243.6	1251.7	1249.7
15°	1231.5	1231.5	1229.5	1239.6	1237.6
17.5°	1211.4	1213.4	1215.4	1223.5	1225.5
20°	1189.3	1193.3	1195.3	1207.4	1207.4
22.5°	1169.2	1171.2	1175.2	1187.3	1187.3
25°	1143.0	1147.0	1155.1	1165.1	1167.1
27.5°	1116.8	1118.8	1128.9	1143.0	1145.0
30°	1082.6	1088.7	1100.7	1116.8	1118.8
32.5°	1052.4	1058.5	1072.6	1088.7	1092.7
35°	1014.2	1022.3	1038.4	1058.5	1062.5
37.5°	980.0	986.0	1006.2	1028.3	1034.3
40°	937.7	949.8	969.9	996.1	1006.2
42.5°	895.5	907.6	931.7	965.9	978.0
45°	851.2	865.3	895.5	933.7	949.8
47.5°	806.9	823.0	857.2	901.5	919.6
50°	756.6	776.8	819.0	869.3	889.4
52.5°	708.3	732.5	778.8	835.1	861.3
55°	658.0	682.2	742.5	800.9	829.1
57.5°	601.7	633.9	700.3	766.7	796.9
60°	549.4	579.5	660.0	732.5	762.7
62.5°	493.0	533.3	619.8	696.3	726.4
65°	434.7	478.9	577.5	654.0	684.2
67.5°	382.3	430.6	535.3	611.7	641.9
70°	320.0	380.3	489.0	565.5	595.6
72.5°	261.6	328.0	440.7	515.2	543.3
75°	205.3	279.7	390.4	456.8	470.9
77.5°	152.9	231.4	338.1	366.2	356.2
80°	108.7	185.1	263.6	249.5	255.6
82.5°	70.4	140.9	163.0	185.1	191.2
85°	40.2	82.5	100.6	108.7	112.7
87.5°	18.1	30.2	40.2	40.2	38.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)