

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: P310563

Luminaire Tested: **24FCZ2-30-UNV-L82765-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: P310563
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: 24FCZ2-30-UNV-L82765-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 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

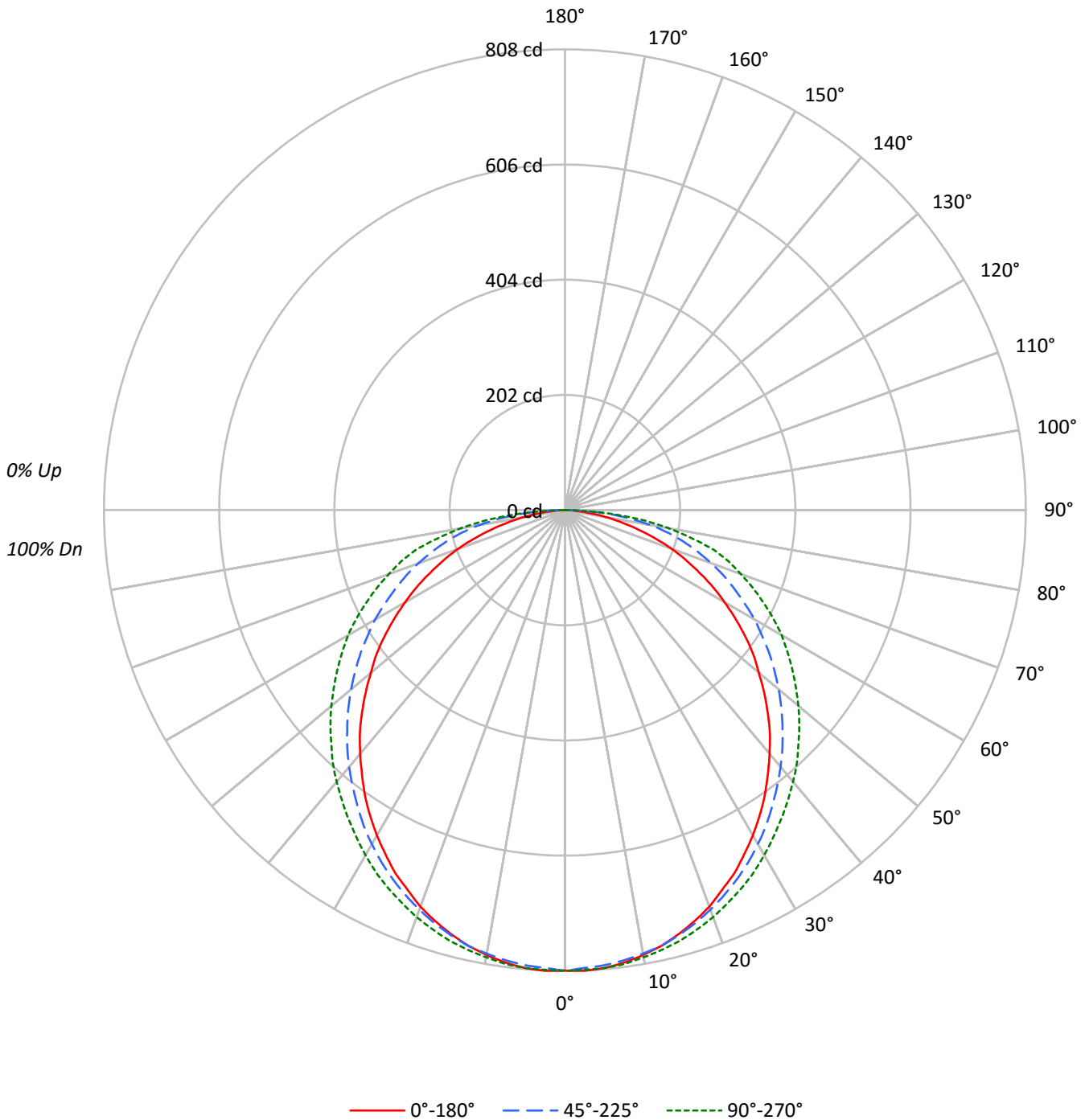
Lumens per Lamp: N/A
Luminaire Lumens: 2449.0 lumens
Efficiency: N/A
Efficacy: 105.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.2
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: P310563
CATALOG NUMBER: 24FCZ2-30-UNV-L82765-CP187-W2A-U-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P310563

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-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°	1087	1087	1087
5°	1089	1082	1089
10°	1082	1079	1088
15°	1073	1075	1089
20°	1060	1068	1088
25°	1043	1060	1087
30°	1024	1052	1086
35°	1004	1041	1086
40°	980	1033	1093
45°	957	1027	1102
50°	929	1024	1119
55°	905	1025	1142
60°	870	1034	1181
65°	830	1045	1223
70°	786	1077	1292
75°	701	1123	1411
80°	598	1190	1442
85°	426	1179	1380



TEST NUMBER: P310563

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-CP187-W2A-U-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.4	3.1
10°-20°	218.6	8.9
20°-30°	330.1	13.5
30°-40°	397.9	16.2
40°-50°	417.7	17.1
50°-60°	390.8	16.0
60°-70°	322.7	13.2
70°-80°	219.9	9.0
80°-90°	75.0	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°	625.1	25.5
0°-40°	1023.0	41.8
0°-60°	1831.4	74.8
0°-90°	2449.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2449.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	808	808	808	808	808	
5°	806	805	801	806	806	76
15°	770	771	772	780	782	217
25°	703	706	714	728	732	323
35°	611	618	634	655	661	382
45°	503	514	540	569	579	388
55°	386	401	437	473	487	344
65°	261	283	328	370	384	259
75°	135	166	216	257	271	144
85°	28	54	76	86	89	35
90°	0	0	0	0	0	



TEST NUMBER: P310563

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-CP187-W2A-U-3000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	807.7	807.7	807.7	807.7	807.7
2.5°	808.5	807.7	803.6	807.7	806.8
5°	806.0	805.2	801.2	806.0	806.0
7.5°	800.3	800.3	796.3	802.0	802.8
10°	792.2	792.2	789.8	796.3	796.3
12.5°	782.5	782.5	782.5	789.0	789.8
15°	770.3	771.1	771.9	780.0	781.7
17.5°	755.7	757.3	759.7	769.5	771.1
20°	740.2	741.8	745.9	757.3	759.7
22.5°	720.7	724.8	730.5	743.5	745.9
25°	702.8	706.1	714.2	728.0	732.1
27.5°	680.9	685.8	696.3	711.0	716.7
30°	659.0	663.8	676.8	693.9	698.8
32.5°	635.4	642.7	656.5	674.4	680.1
35°	611.0	617.5	633.8	654.9	661.4
37.5°	584.2	593.1	611.0	633.8	641.9
40°	558.2	568.0	588.3	612.7	622.4
42.5°	532.2	542.0	564.7	592.3	602.1
45°	503.0	513.5	539.5	568.8	579.3
47.5°	473.7	486.7	515.1	546.0	557.4
50°	443.6	458.3	489.1	521.6	534.6
52.5°	416.8	430.6	463.1	498.1	510.3
55°	386.0	401.4	437.1	472.9	486.7
57.5°	354.3	371.3	409.5	448.5	462.3
60°	323.4	342.1	384.3	423.3	438.8
62.5°	293.3	312.0	355.9	396.5	412.0
65°	260.8	282.8	328.3	369.7	384.3
67.5°	229.9	253.5	301.5	342.1	356.7
70°	199.9	222.6	273.8	313.6	328.3
72.5°	167.4	193.4	244.6	286.0	301.5
75°	134.9	165.8	216.1	256.8	271.4
77.5°	104.8	136.5	186.9	220.2	227.5
80°	77.2	109.7	153.6	177.1	186.1
82.5°	49.6	82.1	117.0	134.1	141.4
85°	27.6	54.4	76.4	86.1	89.4
87.5°	11.4	23.6	30.9	34.9	34.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)