

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: P313831

Luminaire Tested: **24FCZ2-30-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: P313831
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-L83050-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 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

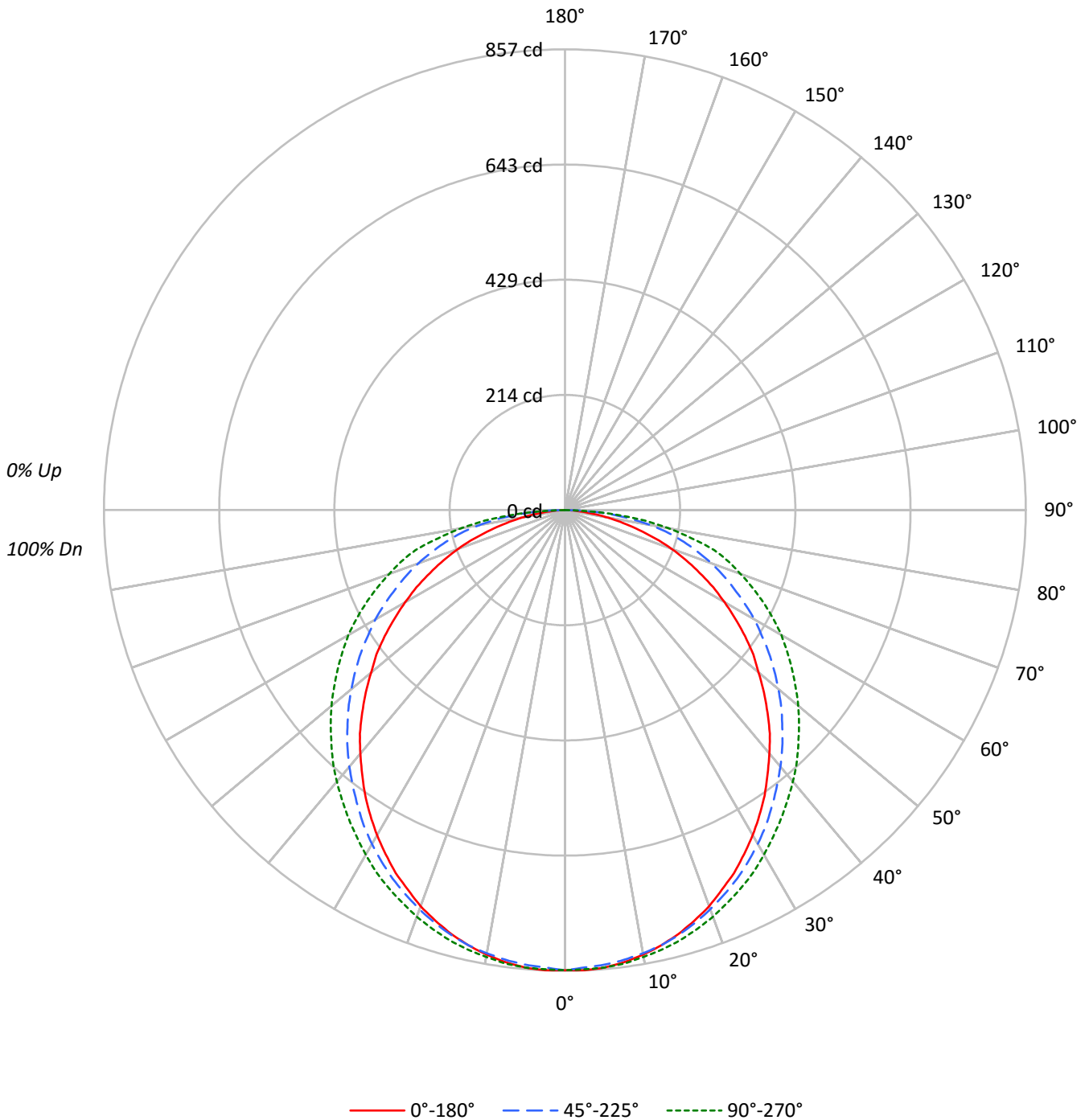
Lumens per Lamp: N/A
Luminaire Lumens: 2595.0 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	1151	1151	1151
5°	1154	1147	1154
10°	1147	1143	1153
15°	1137	1139	1154
20°	1123	1132	1153
25°	1106	1124	1152
30°	1085	1114	1150
35°	1064	1103	1151
40°	1039	1095	1158
45°	1014	1088	1168
50°	984	1085	1186
55°	959	1087	1210
60°	922	1096	1251
65°	880	1107	1296
70°	833	1141	1368
75°	743	1190	1495
80°	634	1261	1528
85°	452	1249	1462



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.0	3.1
10°-20°	231.6	8.9
20°-30°	349.8	13.5
30°-40°	421.6	16.2
40°-50°	442.6	17.1
50°-60°	414.1	16.0
60°-70°	341.9	13.2
70°-80°	233.0	9.0
80°-90°	79.5	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°	662.4	25.5
0°-40°	1084.0	41.8
0°-60°	1940.6	74.8
0°-90°	2595.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2595.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	856	856	856	856	856	
5°	854	853	849	854	854	81
15°	816	817	818	826	828	230
25°	745	748	757	771	776	343
35°	648	654	672	694	701	405
45°	533	544	572	603	614	411
55°	409	425	463	501	516	365
65°	276	300	348	392	407	274
75°	143	176	229	272	288	152
85°	29	58	81	91	95	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	855.8	855.8	855.8	855.8	855.8
2.5°	856.7	855.8	851.5	855.8	854.9
5°	854.1	853.2	848.9	854.1	854.1
7.5°	848.1	848.1	843.8	849.8	850.6
10°	839.4	839.4	836.9	843.8	843.8
12.5°	829.1	829.1	829.1	836.0	836.9
15°	816.2	817.1	817.9	826.5	828.3
17.5°	800.7	802.4	805.0	815.3	817.1
20°	784.3	786.1	790.4	802.4	805.0
22.5°	763.7	768.0	774.0	787.8	790.4
25°	744.7	748.2	756.8	771.4	775.7
27.5°	721.5	726.7	737.9	753.4	759.4
30°	698.3	703.4	717.2	735.3	740.4
32.5°	673.3	681.0	695.7	714.6	720.6
35°	647.5	654.3	671.6	693.9	700.8
37.5°	619.0	628.5	647.5	671.6	680.2
40°	591.5	601.8	623.3	649.2	659.5
42.5°	563.9	574.3	598.4	627.7	638.0
45°	532.9	544.1	571.7	602.7	613.9
47.5°	501.9	515.7	545.9	578.6	590.6
50°	470.1	485.6	518.3	552.7	566.5
52.5°	441.7	456.3	490.8	527.8	540.7
55°	409.0	425.3	463.2	501.1	515.7
57.5°	375.4	393.5	433.9	475.3	489.9
60°	342.7	362.5	407.2	448.6	464.9
62.5°	310.8	330.6	377.1	420.2	436.5
65°	276.4	299.6	347.8	391.7	407.2
67.5°	243.7	268.6	319.4	362.5	378.0
70°	211.8	235.9	290.1	332.3	347.8
72.5°	177.4	204.9	259.2	303.1	319.4
75°	142.9	175.6	229.0	272.1	287.6
77.5°	111.1	144.6	198.0	233.3	241.1
80°	81.8	116.2	162.7	187.7	197.2
82.5°	52.5	87.0	124.0	142.1	149.8
85°	29.3	57.7	80.9	91.3	94.7
87.5°	12.1	25.0	32.7	37.0	37.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)