

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: P310566

Luminaire Tested: **24FCZ2-30-UNV-L82765-CP187-W2A-U-4500K**

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: P310566
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-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 4500K 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

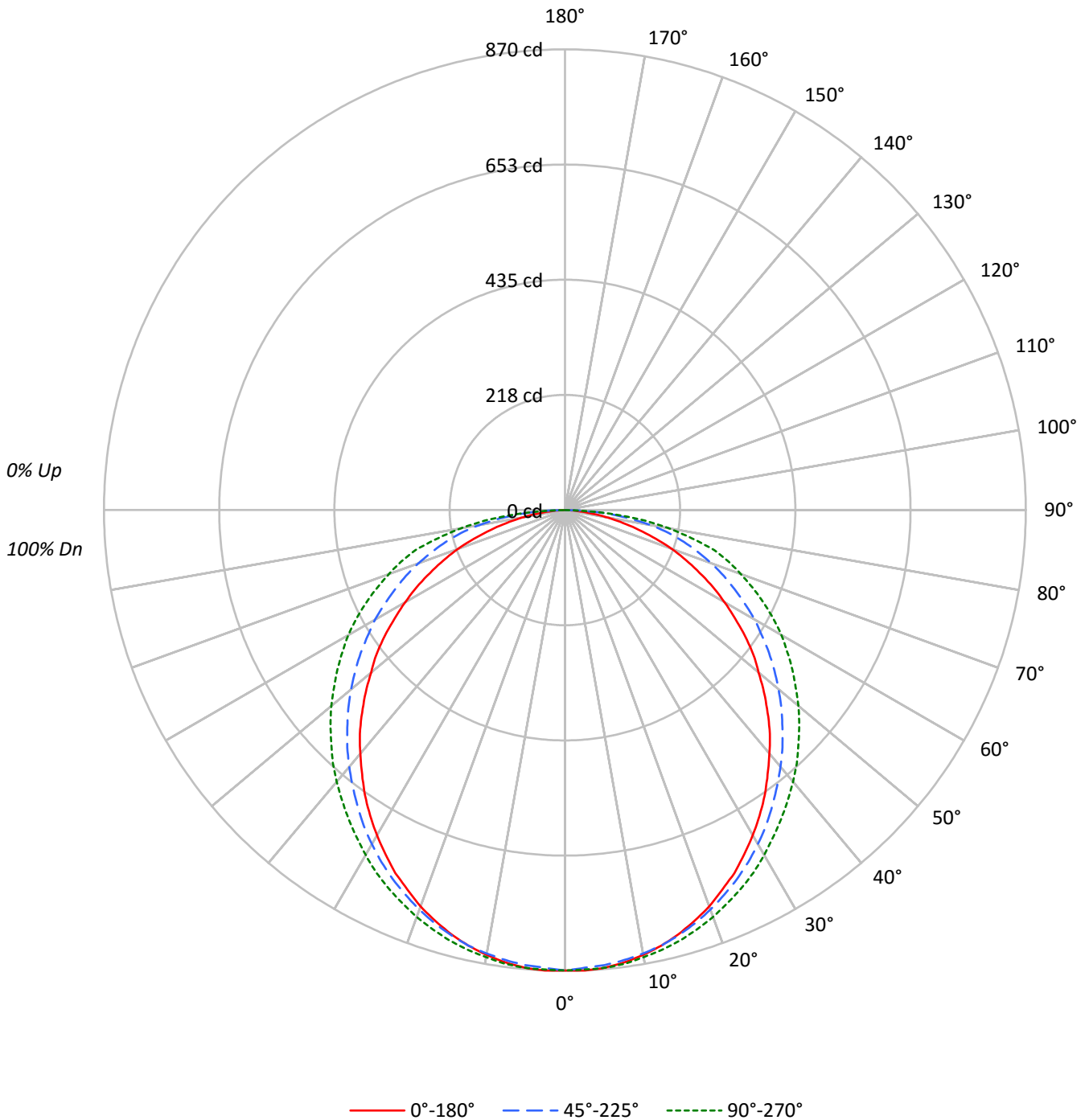
Lumens per Lamp: N/A
Luminaire Lumens: 2636.0 lumens
Efficiency: N/A
Efficacy: 110.8 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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°	1170	1170	1170
5°	1172	1165	1172
10°	1165	1161	1171
15°	1155	1157	1172
20°	1141	1150	1171
25°	1123	1141	1170
30°	1102	1132	1168
35°	1080	1121	1169
40°	1055	1112	1177
45°	1030	1105	1187
50°	1000	1102	1205
55°	974	1104	1229
60°	937	1113	1271
65°	894	1125	1317
70°	846	1159	1390
75°	755	1209	1519
80°	644	1281	1552
85°	459	1269	1485



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.3	3.1
10°-20°	235.2	8.9
20°-30°	355.3	13.5
30°-40°	428.2	16.2
40°-50°	449.6	17.1
50°-60°	420.6	16.0
60°-70°	347.3	13.2
70°-80°	236.7	9.0
80°-90°	80.7	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°	672.8	25.5
0°-40°	1101.1	41.8
0°-60°	1971.2	74.8
0°-90°	2636.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2636.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	869	869	869	869	869	
5°	868	867	862	868	868	82
15°	829	830	831	840	841	234
25°	756	760	769	784	788	348
35°	658	665	682	705	712	411
45°	541	553	581	612	624	418
55°	415	432	470	509	524	371
65°	281	304	353	398	414	278
75°	145	178	233	276	292	155
85°	30	59	82	93	96	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	869.3	869.3	869.3	869.3	869.3
2.5°	870.2	869.3	865.0	869.3	868.5
5°	867.6	866.7	862.3	867.6	867.6
7.5°	861.5	861.5	857.1	863.2	864.1
10°	852.7	852.7	850.1	857.1	857.1
12.5°	842.2	842.2	842.2	849.2	850.1
15°	829.1	830.0	830.8	839.6	841.3
17.5°	813.4	815.1	817.7	828.2	830.0
20°	796.7	798.5	802.9	815.1	817.7
22.5°	775.8	780.1	786.2	800.2	802.9
25°	756.5	760.0	768.8	783.6	788.0
27.5°	732.9	738.1	749.5	765.3	771.4
30°	709.3	714.5	728.5	746.9	752.1
32.5°	683.9	691.8	706.7	725.9	732.0
35°	657.7	664.7	682.2	704.9	711.9
37.5°	628.8	638.4	657.7	682.2	690.9
40°	600.8	611.3	633.2	659.4	669.9
42.5°	572.8	583.3	607.8	637.6	648.1
45°	541.4	552.7	580.7	612.2	623.6
47.5°	509.9	523.9	554.5	587.7	600.0
50°	477.5	493.3	526.5	561.5	575.5
52.5°	448.7	463.5	498.5	536.1	549.2
55°	415.4	432.0	470.5	509.0	523.9
57.5°	381.3	399.7	440.8	482.8	497.6
60°	348.1	368.2	413.7	455.7	472.3
62.5°	315.7	335.8	383.1	426.8	443.4
65°	280.7	304.4	353.3	397.9	413.7
67.5°	247.5	272.9	324.5	368.2	383.9
70°	215.1	239.6	294.7	337.6	353.3
72.5°	180.2	208.1	263.2	307.9	324.5
75°	145.2	178.4	232.6	276.4	292.1
77.5°	112.8	146.9	201.2	237.0	244.9
80°	83.1	118.1	165.3	190.7	200.3
82.5°	53.3	88.3	125.9	144.3	152.2
85°	29.7	58.6	82.2	92.7	96.2
87.5°	12.2	25.4	33.2	37.6	37.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)