

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: P312658

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-RDP-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: P312658
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-24)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-29HE-UNV-L83050-RDP-CP187-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 1704.0 lumens
Efficiency: N/A
Efficacy: 72.5 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

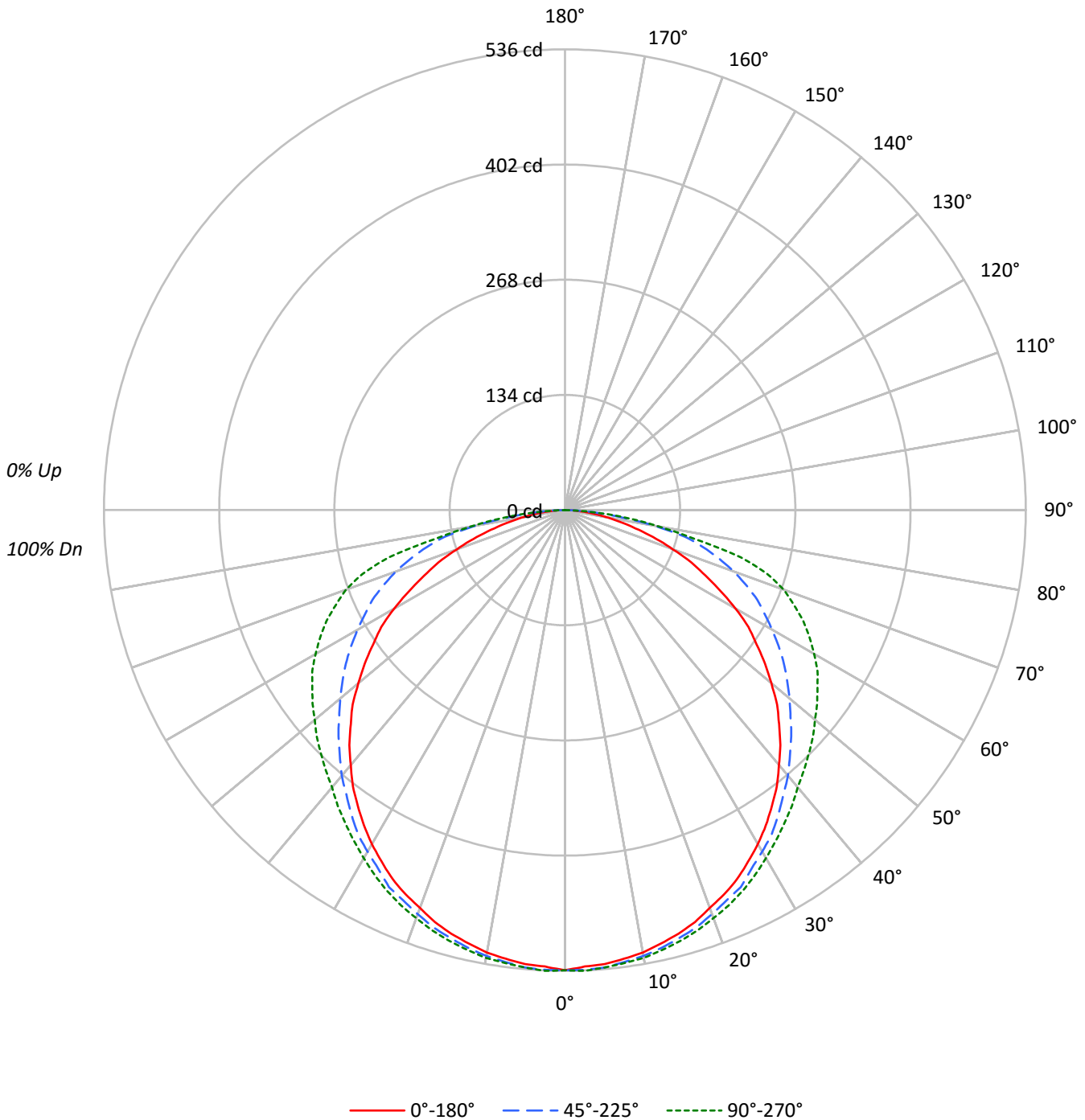
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	86	88	86	84	82
2	97	88	81	75	95	86	80	74	83	77	72	80	75	71	76	72	69	67
3	88	77	68	61	86	75	67	61	72	65	60	70	64	59	67	62	58	55
4	80	68	59	51	78	66	58	51	64	56	50	61	55	50	59	54	49	47
5	74	60	51	44	72	59	50	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	44	38	51	43	38	50	43	37	48	42	37	35
7	63	49	40	33	61	48	39	33	47	39	33	45	38	33	44	37	33	31
8	59	45	36	30	57	44	35	30	43	35	29	41	34	29	40	34	29	27
9	55	41	32	27	53	40	32	27	39	32	26	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°	1440	1440	1440
5°	1432	1442	1442
10°	1428	1439	1445
15°	1421	1435	1446
20°	1411	1432	1447
25°	1407	1437	1452
30°	1395	1426	1453
35°	1379	1421	1462
40°	1361	1418	1480
45°	1340	1417	1526
50°	1312	1428	1590
55°	1276	1459	1682
60°	1235	1498	1801
65°	1149	1572	1948
70°	1055	1647	2131
75°	925	1733	2202
80°	797	1650	1729
85°	698	1201	1315



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.6	3.0
10°-20°	145.4	8.5
20°-30°	221.8	13.0
30°-40°	270.8	15.9
40°-50°	289.6	17.0
50°-60°	279.5	16.4
60°-70°	240.6	14.1
70°-80°	162.8	9.6
80°-90°	42.9	2.5
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°	417.8	24.5
0°-40°	688.6	40.4
0°-60°	1257.7	73.8
0°-90°	1704.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1704.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	535	535	535	535	535	
5°	530	532	534	534	534	50
15°	510	511	515	518	519	144
25°	474	476	484	486	489	218
35°	420	424	432	441	445	263
45°	352	358	372	391	401	272
55°	272	281	311	342	358	244
65°	180	198	247	286	306	180
75°	89	118	167	201	212	95
85°	23	31	39	40	43	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	535.3	535.3	535.3	535.3	535.3
2.5°	531.5	532.7	535.3	535.3	536.5
5°	530.2	531.5	534.0	534.0	534.0
7.5°	526.5	527.7	530.2	531.5	531.5
10°	522.7	524.0	526.5	527.7	529.0
12.5°	516.5	517.7	521.5	524.0	524.0
15°	510.2	511.4	515.2	517.7	519.0
17.5°	502.7	505.2	508.9	511.4	512.7
20°	492.6	495.1	500.2	503.9	505.2
22.5°	483.9	486.4	491.4	495.1	497.7
25°	473.8	476.3	483.9	486.4	488.9
27.5°	461.3	463.8	470.1	475.1	478.8
30°	448.8	451.3	458.8	465.1	467.6
32.5°	435.0	438.7	447.5	452.5	456.3
35°	419.9	423.7	432.5	441.2	445.0
37.5°	404.9	408.6	417.4	428.7	433.7
40°	387.3	392.4	403.6	418.7	421.2
42.5°	371.0	377.3	387.3	404.9	411.2
45°	352.2	358.5	372.3	391.1	401.1
47.5°	334.7	341.0	356.0	378.6	391.1
50°	313.4	322.2	341.0	367.3	379.8
52.5°	293.3	300.8	325.9	354.7	369.8
55°	272.0	280.8	310.9	342.2	358.5
57.5°	253.2	260.7	294.6	329.7	348.5
60°	229.4	239.4	278.3	315.9	334.7
62.5°	204.3	219.4	262.0	300.8	320.9
65°	180.5	198.1	246.9	285.8	305.9
67.5°	159.2	178.0	228.1	269.5	288.3
70°	134.1	157.9	209.3	249.5	270.8
72.5°	111.6	137.9	188.0	228.1	246.9
75°	89.0	117.8	166.7	200.6	211.8
77.5°	68.9	96.5	142.9	152.9	154.2
80°	51.4	76.5	106.5	107.8	111.6
82.5°	35.1	53.9	68.9	75.2	76.5
85°	22.6	31.3	38.9	40.1	42.6
87.5°	10.0	11.3	13.8	12.5	12.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)