

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: P308453

Luminaire Tested: **22FCZ2-29HE-UNV-L82765-RDP-CP187-W2A-U-5500K**

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: P308453
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-L82765-RDP-CP187-W2A-U-5500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 1672.0 lumens
Efficiency: N/A
Efficacy: 72.7 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

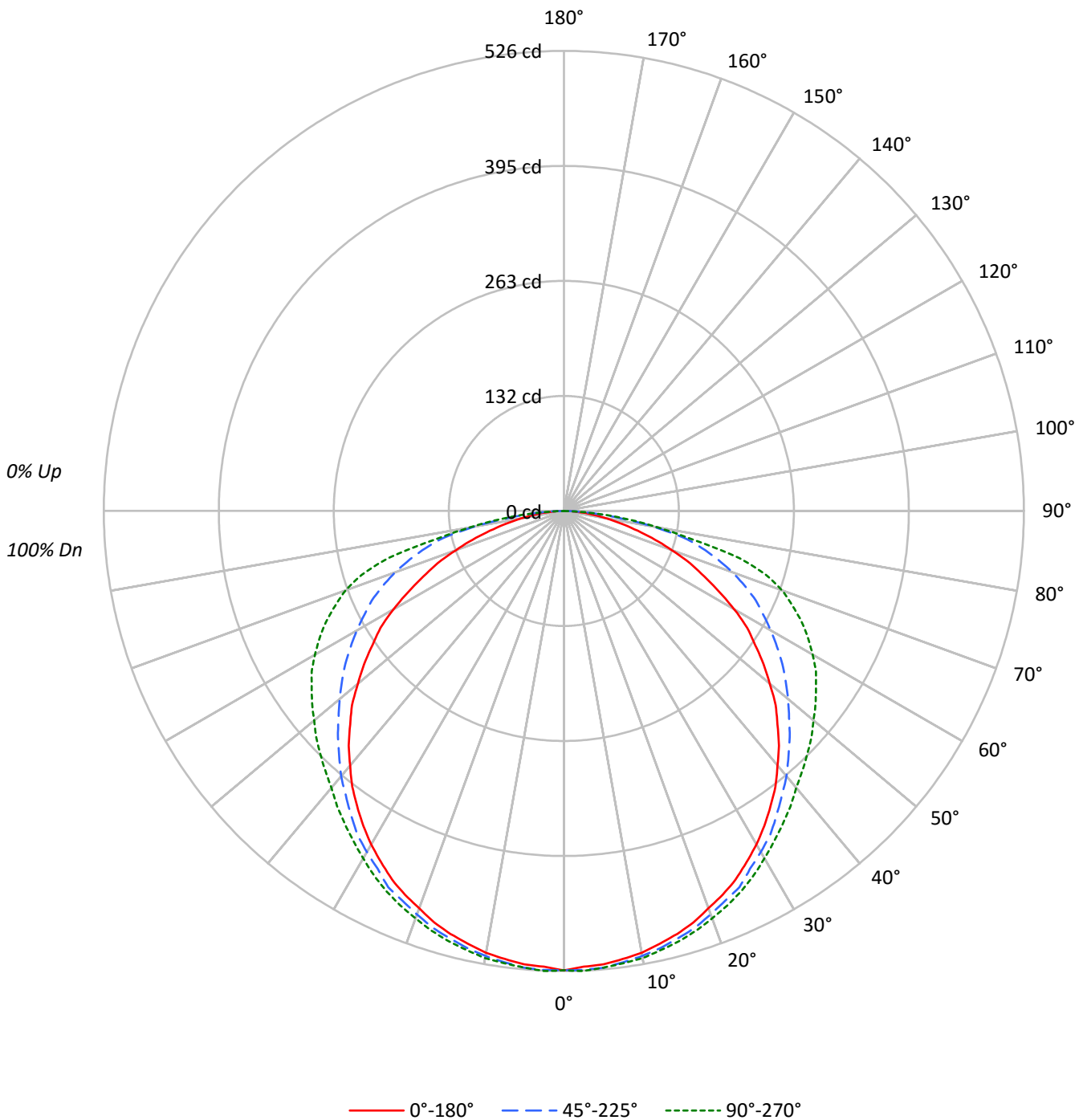
Input Watts (W): 23
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1413	1413	1413
5°	1405	1415	1415
10°	1401	1412	1418
15°	1395	1408	1419
20°	1384	1405	1420
25°	1380	1410	1424
30°	1368	1399	1426
35°	1353	1394	1434
40°	1335	1391	1452
45°	1315	1390	1498
50°	1287	1401	1560
55°	1252	1431	1650
60°	1211	1470	1767
65°	1128	1543	1911
70°	1035	1616	2090
75°	908	1701	2162
80°	781	1619	1697
85°	682	1176	1291



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.7	3.0
10°-20°	142.6	8.5
20°-30°	217.6	13.0
30°-40°	265.7	15.9
40°-50°	284.1	17.0
50°-60°	274.2	16.4
60°-70°	236.1	14.1
70°-80°	159.7	9.6
80°-90°	42.1	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°	410.0	24.5
0°-40°	675.7	40.4
0°-60°	1234.1	73.8
0°-90°	1672.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1672.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	525	525	525	525	525	
5°	520	522	524	524	524	49
15°	501	502	506	508	509	141
25°	465	467	475	477	480	214
35°	412	416	424	433	437	258
45°	346	352	365	384	394	267
55°	267	276	305	336	352	239
65°	177	194	242	280	300	176
75°	87	116	164	197	208	94
85°	22	31	38	39	42	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	525.2	525.2	525.2	525.2	525.2
2.5°	521.5	522.7	525.2	525.2	526.4
5°	520.3	521.5	524.0	524.0	524.0
7.5°	516.6	517.8	520.3	521.5	521.5
10°	512.9	514.1	516.6	517.8	519.1
12.5°	506.8	508.0	511.7	514.1	514.1
15°	500.6	501.8	505.5	508.0	509.2
17.5°	493.2	495.7	499.4	501.8	503.1
20°	483.4	485.8	490.8	494.5	495.7
22.5°	474.8	477.2	482.2	485.8	488.3
25°	464.9	467.4	474.8	477.2	479.7
27.5°	452.6	455.1	461.2	466.2	469.9
30°	440.3	442.8	450.2	456.3	458.8
32.5°	426.8	430.5	439.1	444.0	447.7
35°	412.0	415.7	424.3	433.0	436.6
37.5°	397.3	401.0	409.6	420.7	425.6
40°	380.1	385.0	396.1	410.8	413.3
42.5°	364.1	370.2	380.1	397.3	403.4
45°	345.6	351.8	365.3	383.8	393.6
47.5°	328.4	334.6	349.3	371.5	383.8
50°	307.5	316.1	334.6	360.4	372.7
52.5°	287.8	295.2	319.8	348.1	362.8
55°	266.9	275.5	305.0	335.8	351.8
57.5°	248.5	255.8	289.0	323.5	341.9
60°	225.1	234.9	273.1	310.0	328.4
62.5°	200.5	215.2	257.1	295.2	314.9
65°	177.1	194.3	242.3	280.4	300.1
67.5°	156.2	174.7	223.9	264.4	282.9
70°	131.6	155.0	205.4	244.8	265.7
72.5°	109.5	135.3	184.5	223.9	242.3
75°	87.3	115.6	163.6	196.8	207.9
77.5°	67.6	94.7	140.2	150.1	151.3
80°	50.4	75.0	104.5	105.8	109.5
82.5°	34.4	52.9	67.6	73.8	75.0
85°	22.1	30.7	38.1	39.4	41.8
87.5°	9.8	11.1	13.5	12.3	12.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)