

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: P308898

Luminaire Tested: **22FCZ2-20HE-UNV-L82765-S-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: P308898
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-20HE-UNV-L82765-S-CP187-W2A-U-3000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH 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: 1812.0 lumens
Efficiency: N/A
Efficacy: 109.2 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

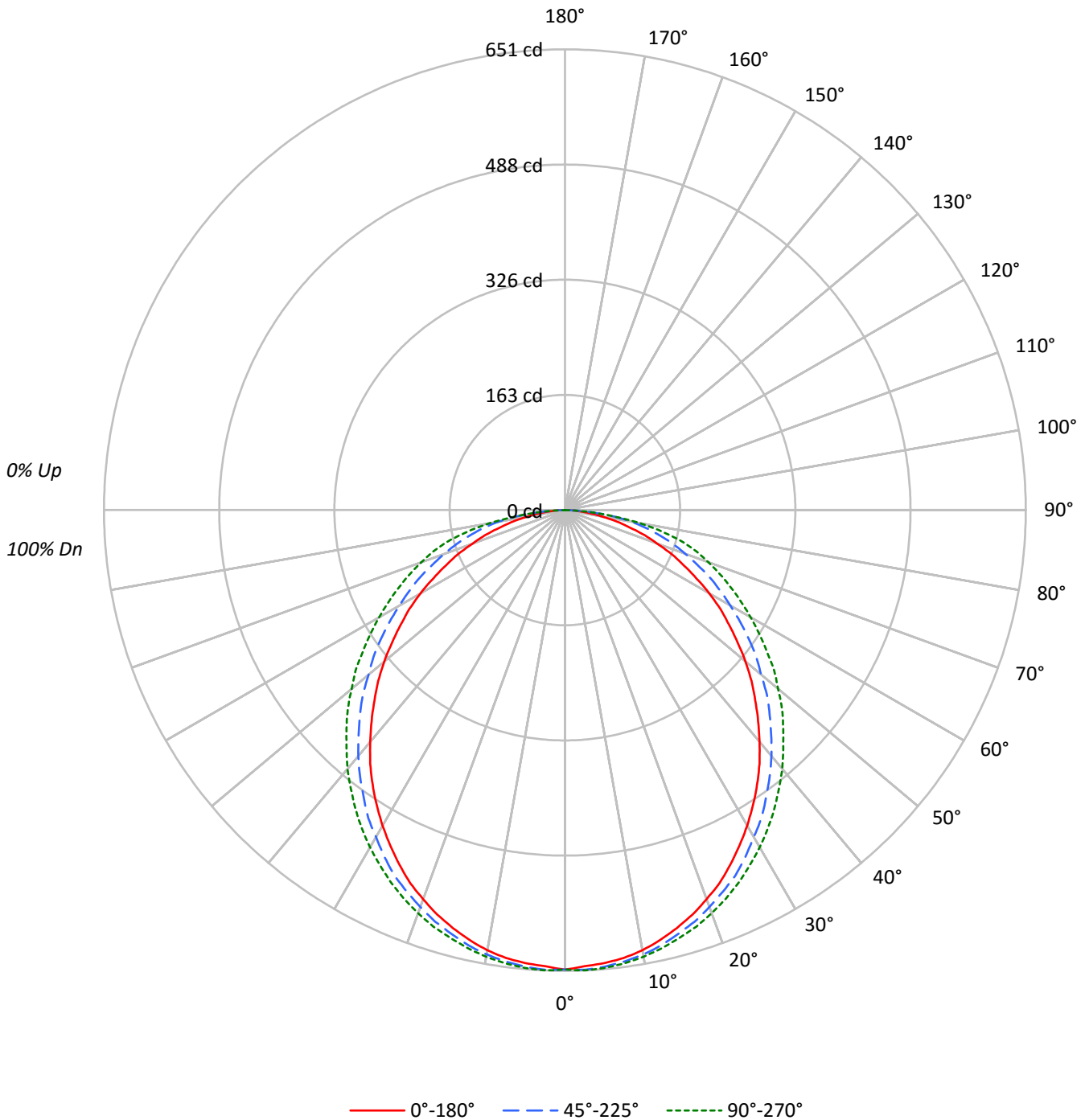
Input Watts (W): 16.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 22FC22-20HE-UNV-L82765-S-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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1747	1747	1747
5°	1736	1749	1754
10°	1726	1742	1751
15°	1703	1726	1743
20°	1675	1709	1736
25°	1642	1692	1724
30°	1600	1658	1710
35°	1555	1627	1694
40°	1503	1595	1678
45°	1448	1557	1660
50°	1394	1515	1646
55°	1329	1487	1634
60°	1270	1452	1629
65°	1184	1443	1647
70°	1091	1430	1696
75°	985	1450	1784
80°	852	1494	1677
85°	704	1254	1254



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.4	3.4
10°-20°	174.7	9.6
20°-30°	261.5	14.4
30°-40°	309.6	17.1
40°-50°	315.6	17.4
50°-60°	282.8	15.6
60°-70°	221.4	12.2
70°-80°	142.8	7.9
80°-90°	42.2	2.3
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°	497.6	27.5
0°-40°	807.2	44.5
0°-60°	1405.6	77.6
0°-90°	1812.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1812.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	649	649	649	649	649	
5°	642	644	648	648	649	61
15°	611	615	620	625	626	172
25°	553	558	570	577	581	255
35°	473	479	495	511	516	296
45°	380	389	409	430	436	294
55°	283	292	317	339	348	254
65°	186	197	227	249	259	185
75°	95	109	140	163	172	102
85°	23	31	41	41	41	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	649.3	649.3	649.3	649.3	649.3
2.5°	645.1	646.8	650.1	651.0	651.0
5°	642.5	644.2	647.6	648.5	649.3
7.5°	638.3	639.2	643.4	645.1	645.9
10°	631.5	633.2	637.5	640.0	640.8
12.5°	622.2	624.8	629.9	633.2	634.1
15°	611.3	614.6	619.7	624.8	625.6
17.5°	599.4	602.8	609.6	615.5	617.2
20°	585.0	589.3	596.9	603.6	606.2
22.5°	570.7	574.1	583.4	591.8	594.3
25°	552.9	558.0	569.8	577.4	580.8
27.5°	534.3	540.2	552.1	562.2	565.6
30°	514.9	520.8	533.5	546.2	550.4
32.5°	494.6	501.3	516.6	529.2	533.5
35°	473.4	479.4	495.4	510.6	515.7
37.5°	451.5	456.5	475.1	491.2	496.3
40°	427.8	434.6	454.0	472.6	477.7
42.5°	404.1	411.7	431.2	451.5	456.5
45°	380.4	388.9	409.2	430.3	436.2
47.5°	357.6	364.4	387.2	407.5	416.0
50°	333.1	339.9	361.8	384.7	393.1
52.5°	307.7	317.0	340.7	362.7	372.8
55°	283.2	292.5	317.0	339.0	348.3
57.5°	260.4	268.0	293.4	316.2	325.5
60°	235.9	242.6	269.7	294.2	302.7
62.5°	209.7	219.8	247.7	270.5	280.7
65°	186.0	197.0	226.6	248.6	258.7
67.5°	164.0	174.2	202.9	226.6	237.6
70°	138.7	152.2	181.8	205.4	215.6
72.5°	118.4	130.2	160.6	184.3	195.3
75°	94.7	109.1	139.5	163.2	171.6
77.5°	75.2	89.6	118.4	137.0	141.2
80°	55.0	69.3	96.4	105.7	108.2
82.5°	37.2	50.7	69.3	71.9	72.7
85°	22.8	31.3	40.6	40.6	40.6
87.5°	11.0	12.7	14.4	13.5	13.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)