

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: P312910

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-S-CP250-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: P312910
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-L83050-S-CP250-W2A-U-3000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 1800.0 lumens
Efficiency: N/A
Efficacy: 107.8 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

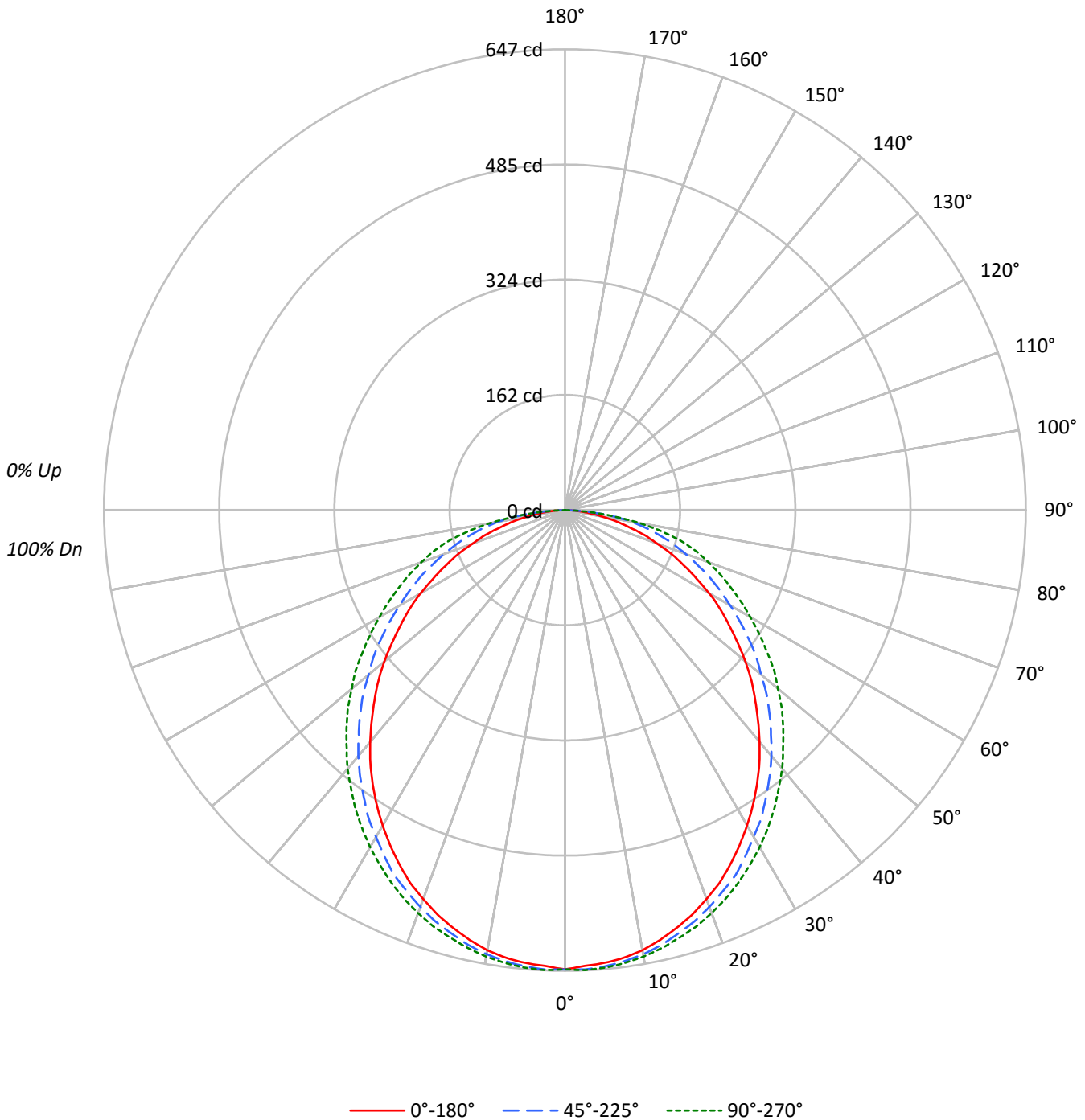
Input Watts (W): 16.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1736	1736	1736
5°	1724	1738	1742
10°	1714	1730	1740
15°	1692	1715	1731
20°	1664	1698	1725
25°	1631	1681	1713
30°	1589	1647	1699
35°	1545	1617	1683
40°	1493	1584	1667
45°	1438	1547	1649
50°	1385	1505	1635
55°	1320	1477	1623
60°	1261	1442	1618
65°	1177	1433	1636
70°	1083	1421	1685
75°	978	1441	1773
80°	846	1483	1666
85°	701	1244	1244



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.0	3.4
10°-20°	173.6	9.6
20°-30°	259.7	14.4
30°-40°	307.6	17.1
40°-50°	313.5	17.4
50°-60°	280.9	15.6
60°-70°	220.0	12.2
70°-80°	141.8	7.9
80°-90°	41.9	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°	494.3	27.5
0°-40°	801.9	44.5
0°-60°	1396.3	77.6
0°-90°	1800.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1800.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	645	645	645	645	645	
5°	638	640	643	644	645	61
15°	607	611	616	621	622	171
25°	549	554	566	574	577	253
35°	470	476	492	507	512	294
45°	378	386	406	428	433	292
55°	281	291	315	337	346	252
65°	185	196	225	247	257	184
75°	94	108	139	162	170	101
85°	23	31	40	40	40	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	645.0	645.0	645.0	645.0	645.0
2.5°	640.8	642.5	645.8	646.7	646.7
5°	638.3	640.0	643.3	644.2	645.0
7.5°	634.1	634.9	639.1	640.8	641.6
10°	627.4	629.0	633.2	635.8	636.6
12.5°	618.1	620.6	625.7	629.0	629.9
15°	607.2	610.6	615.6	620.6	621.5
17.5°	595.4	598.8	605.5	611.4	613.1
20°	581.2	585.4	592.9	599.6	602.2
22.5°	566.9	570.3	579.5	587.9	590.4
25°	549.3	554.3	566.1	573.6	577.0
27.5°	530.8	536.7	548.4	558.5	561.9
30°	511.5	517.3	529.9	542.5	546.7
32.5°	491.3	498.0	513.1	525.7	529.9
35°	470.3	476.2	492.1	507.3	512.3
37.5°	448.5	453.5	472.0	487.9	493.0
40°	425.0	431.7	451.0	469.5	474.5
42.5°	401.4	409.0	428.3	448.5	453.5
45°	377.9	386.3	406.5	427.5	433.4
47.5°	355.3	362.0	384.6	404.8	413.2
50°	330.9	337.6	359.5	382.1	390.5
52.5°	305.7	314.9	338.5	360.3	370.4
55°	281.3	290.6	314.9	336.8	346.0
57.5°	258.7	266.2	291.4	314.1	323.3
60°	234.3	241.0	267.9	292.3	300.7
62.5°	208.3	218.4	246.1	268.7	278.8
65°	184.8	195.7	225.1	246.9	257.0
67.5°	162.9	173.0	201.6	225.1	236.0
70°	137.7	151.2	180.6	204.1	214.2
72.5°	117.6	129.3	159.6	183.1	194.0
75°	94.1	108.3	138.6	162.1	170.5
77.5°	74.7	89.0	117.6	136.1	140.3
80°	54.6	68.9	95.7	105.0	107.5
82.5°	37.0	50.4	68.9	71.4	72.2
85°	22.7	31.1	40.3	40.3	40.3
87.5°	10.9	12.6	14.3	13.4	13.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)