

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: P312758

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-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: P312758
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)
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-CP187-W2A-U-4500K
Description: 2'X2' 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: 1930.0 lumens
Efficiency: N/A
Efficacy: 110.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

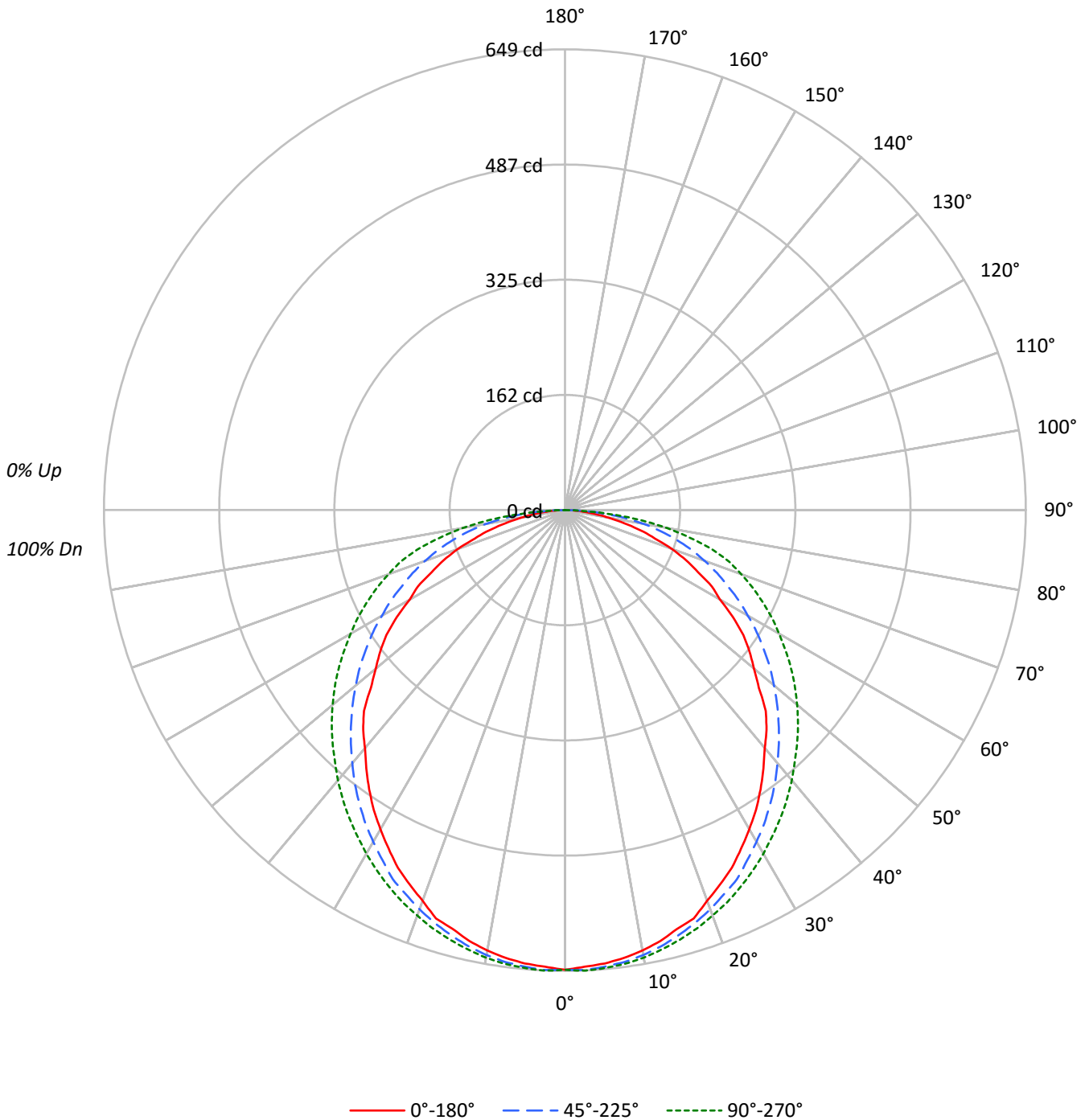
Input Watts (W): 17.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	93	90	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1742	1742	1742
5°	1732	1744	1749
10°	1721	1739	1749
15°	1701	1727	1745
20°	1677	1714	1741
25°	1651	1703	1739
30°	1613	1676	1737
35°	1578	1657	1739
40°	1538	1636	1746
45°	1522	1620	1761
50°	1454	1609	1787
55°	1439	1604	1825
60°	1357	1601	1874
65°	1317	1612	1959
70°	1264	1650	2079
75°	1152	1700	2237
80°	987	1760	2261
85°	800	1683	1939



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.3	3.2
10°-20°	174.8	9.1
20°-30°	263.1	13.6
30°-40°	315.7	16.4
40°-50°	330.0	17.1
50°-60°	307.5	15.9
60°-70°	252.2	13.1
70°-80°	170.0	8.8
80°-90°	55.4	2.9
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°	499.1	25.9
0°-40°	814.9	42.2
0°-60°	1452.4	75.3
0°-90°	1930.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1930.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	648	648	648	648	648	
5°	641	643	646	647	648	61
15°	611	614	620	625	626	173
25°	556	560	574	582	586	256
35°	480	487	504	522	529	300
45°	400	403	426	452	463	306
55°	307	312	342	374	389	272
65°	207	216	253	290	308	206
75°	111	123	164	200	215	117
85°	26	37	54	64	63	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	647.5	647.5	647.5	647.5	647.5
2.5°	643.8	645.7	648.5	649.4	649.4
5°	641.1	642.9	645.7	646.6	647.5
7.5°	636.4	638.3	642.0	643.8	644.8
10°	630.0	631.8	636.4	639.2	640.1
12.5°	621.7	623.5	629.1	632.8	633.7
15°	610.6	614.3	619.8	625.4	626.3
17.5°	603.2	602.3	609.7	616.1	618.0
20°	585.6	590.3	598.6	606.0	607.8
22.5°	570.9	574.6	585.6	594.0	597.7
25°	556.1	559.8	573.6	581.9	585.6
27.5°	537.6	543.2	556.1	568.1	572.7
30°	519.1	524.7	539.5	553.3	558.9
32.5°	500.7	507.1	522.8	537.6	544.1
35°	480.3	486.8	504.4	521.9	529.3
37.5°	459.1	467.4	485.9	505.3	513.6
40°	437.8	446.2	465.6	487.7	497.0
42.5°	420.3	424.0	446.2	470.2	479.4
45°	400.0	402.7	425.8	451.7	462.8
47.5°	370.4	380.6	405.5	434.2	445.2
50°	347.3	358.4	384.3	414.8	426.8
52.5°	327.9	335.3	363.9	394.4	408.3
55°	306.7	312.2	341.8	374.1	388.9
57.5°	280.8	291.0	320.5	353.8	368.6
60°	252.2	265.1	297.4	333.5	348.2
62.5°	233.7	241.1	276.2	312.2	328.8
65°	206.9	216.2	253.1	290.0	307.6
67.5°	184.7	194.0	231.9	268.8	286.4
70°	160.7	170.0	209.7	246.6	264.2
72.5°	133.0	145.9	187.5	224.5	242.9
75°	110.8	122.9	163.5	200.4	215.2
77.5°	85.9	101.6	139.5	170.0	181.1
80°	63.7	79.4	113.6	135.8	145.9
82.5°	43.4	59.1	85.0	101.6	107.2
85°	25.9	36.9	54.5	63.7	62.8
87.5°	12.0	15.7	22.2	22.2	21.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)