

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: P312906

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-S-CP187-W2A-U-3500K**

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: P312906
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-CP187-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 3500K 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: 1920.0 lumens
Efficiency: N/A
Efficacy: 115.0 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

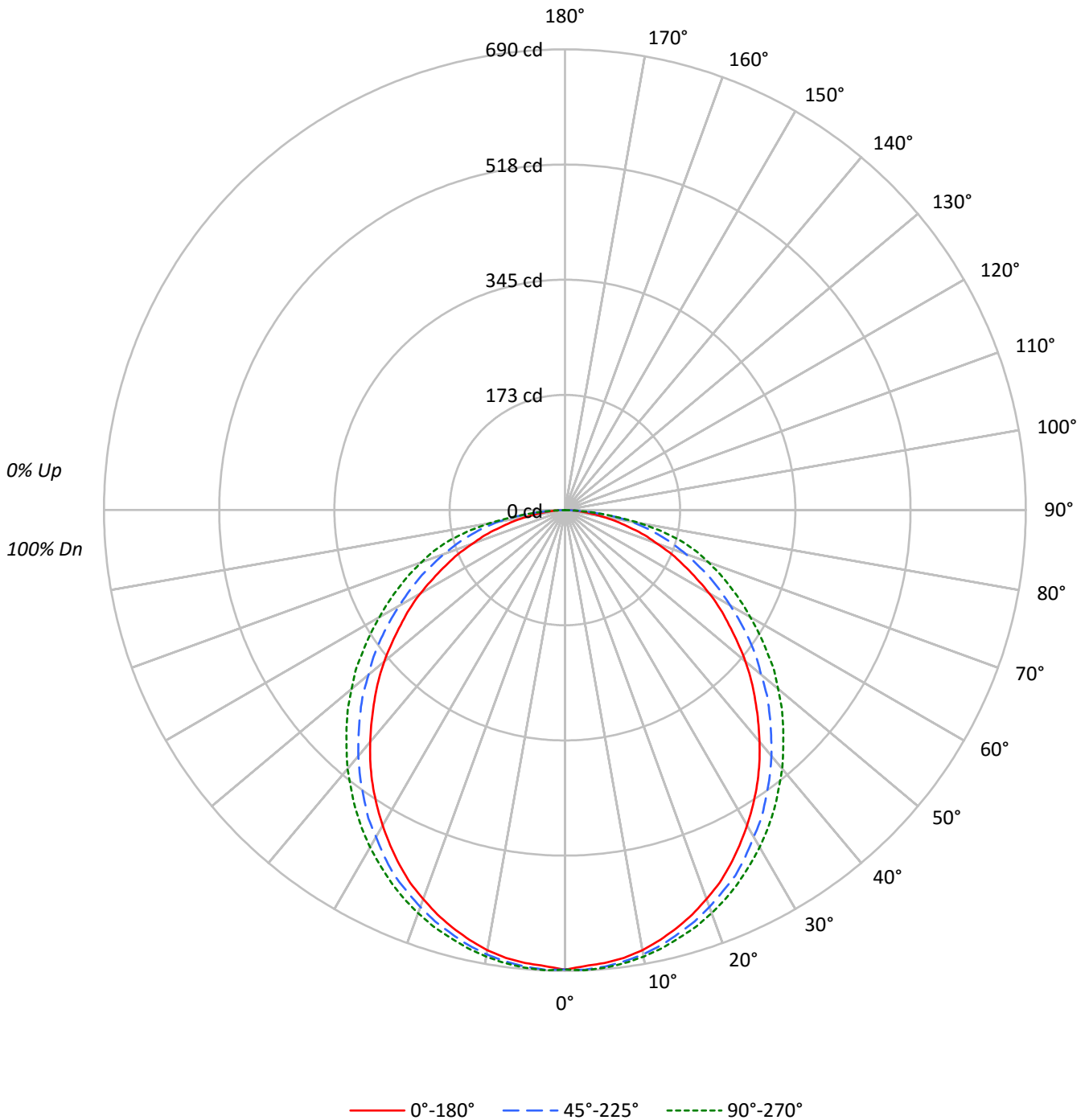
Input Watts (W): 16.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1851	1851	1851
5°	1839	1854	1858
10°	1829	1846	1855
15°	1804	1829	1847
20°	1775	1811	1839
25°	1740	1793	1827
30°	1695	1757	1812
35°	1648	1725	1795
40°	1592	1690	1778
45°	1534	1650	1759
50°	1478	1605	1744
55°	1408	1576	1732
60°	1345	1538	1726
65°	1255	1529	1745
70°	1156	1515	1797
75°	1043	1537	1891
80°	902	1582	1777
85°	747	1328	1328



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.1	3.4
10°-20°	185.2	9.6
20°-30°	277.0	14.4
30°-40°	328.1	17.1
40°-50°	334.4	17.4
50°-60°	299.7	15.6
60°-70°	234.6	12.2
70°-80°	151.3	7.9
80°-90°	44.7	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°	527.3	27.5
0°-40°	855.4	44.5
0°-60°	1489.4	77.6
0°-90°	1920.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1920.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	688	688	688	688	688	
5°	681	683	686	687	688	65
15°	648	651	657	662	663	183
25°	586	591	604	612	615	270
35°	502	508	525	541	546	314
45°	403	412	434	456	462	311
55°	300	310	336	359	369	269
65°	197	209	240	263	274	196
75°	100	116	148	173	182	108
85°	24	33	43	43	43	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	688.0	688.0	688.0	688.0	688.0
2.5°	683.5	685.3	688.9	689.8	689.8
5°	680.8	682.6	686.2	687.1	688.0
7.5°	676.4	677.2	681.7	683.5	684.4
10°	669.2	671.0	675.5	678.1	679.0
12.5°	659.3	662.0	667.4	671.0	671.9
15°	647.7	651.3	656.6	662.0	662.9
17.5°	635.1	638.7	645.9	652.2	654.0
20°	619.9	624.4	632.5	639.6	642.3
22.5°	604.7	608.3	618.1	627.1	629.8
25°	585.9	591.2	603.8	611.9	615.4
27.5°	566.2	572.4	585.0	595.7	599.3
30°	545.6	551.8	565.3	578.7	583.2
32.5°	524.1	531.2	547.4	560.8	565.3
35°	501.7	507.9	525.0	541.1	546.5
37.5°	478.4	483.7	503.5	520.5	525.9
40°	453.3	460.5	481.1	500.8	506.1
42.5°	428.2	436.3	456.9	478.4	483.7
45°	403.1	412.1	433.6	456.0	462.2
47.5°	378.9	386.1	410.3	431.8	440.7
50°	353.0	360.1	383.4	407.6	416.6
52.5°	326.1	335.9	361.0	384.3	395.1
55°	300.1	310.0	335.9	359.2	369.1
57.5°	275.9	284.0	310.9	335.0	344.9
60°	249.9	257.1	285.8	311.7	320.7
62.5°	222.2	232.9	262.5	286.7	297.4
65°	197.1	208.7	240.1	263.4	274.1
67.5°	173.8	184.5	215.0	240.1	251.7
70°	146.9	161.2	192.6	217.7	228.4
72.5°	125.4	138.0	170.2	195.3	206.9
75°	100.3	115.6	147.8	172.9	181.9
77.5°	79.7	95.0	125.4	145.1	149.6
80°	58.2	73.5	102.1	112.0	114.7
82.5°	39.4	53.7	73.5	76.1	77.0
85°	24.2	33.1	43.0	43.0	43.0
87.5°	11.6	13.4	15.2	14.3	14.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)