

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: P312907

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-S-CP187-W2A-U-4000K**

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: P312907
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-4000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 4000K 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: 2016.0 lumens
Efficiency: N/A
Efficacy: 117.9 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

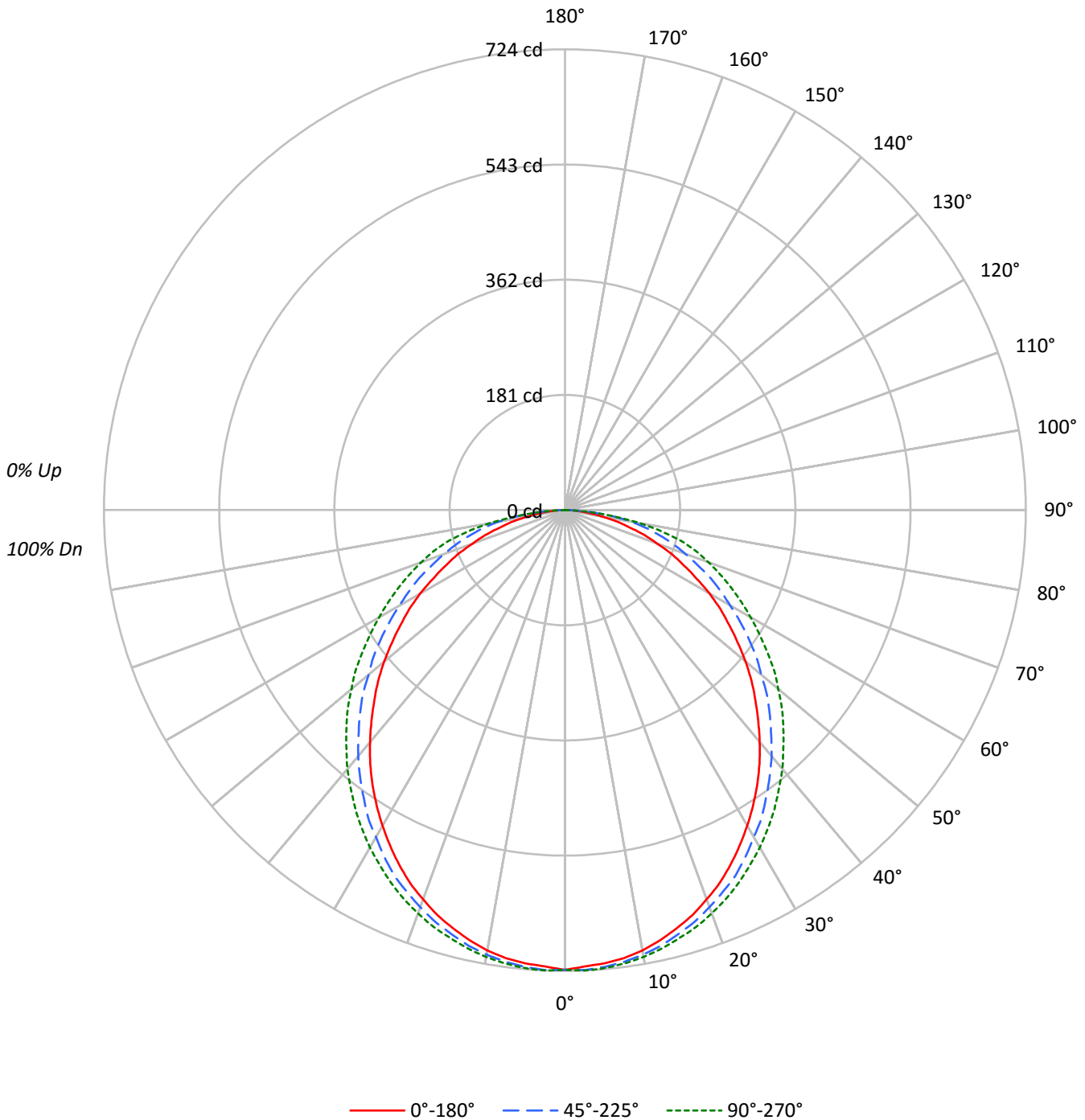
Input Watts (W): 17.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1944	1944	1944
5°	1931	1946	1951
10°	1920	1938	1948
15°	1895	1921	1939
20°	1864	1902	1931
25°	1827	1882	1919
30°	1780	1844	1903
35°	1730	1811	1885
40°	1672	1774	1867
45°	1611	1733	1847
50°	1551	1685	1831
55°	1478	1655	1818
60°	1412	1615	1812
65°	1317	1605	1833
70°	1214	1591	1888
75°	1095	1614	1985
80°	947	1661	1866
85°	784	1392	1392



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.3	3.4
10°-20°	194.4	9.6
20°-30°	290.9	14.4
30°-40°	344.5	17.1
40°-50°	351.1	17.4
50°-60°	314.7	15.6
60°-70°	246.4	12.2
70°-80°	158.9	7.9
80°-90°	46.9	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°	553.6	27.5
0°-40°	898.1	44.5
0°-60°	1563.9	77.6
0°-90°	2016.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2016.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	722	722	722	722	722	
5°	715	717	720	722	722	68
15°	680	684	690	695	696	192
25°	615	621	634	642	646	283
35°	527	533	551	568	574	329
45°	423	433	455	479	485	327
55°	315	326	353	377	388	283
65°	207	219	252	276	288	206
75°	105	121	155	182	191	113
85°	25	35	45	45	45	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	722.4	722.4	722.4	722.4	722.4
2.5°	717.7	719.6	723.3	724.3	724.3
5°	714.9	716.8	720.5	721.5	722.4
7.5°	710.2	711.1	715.8	717.7	718.6
10°	702.6	704.5	709.2	712.0	713.0
12.5°	692.3	695.1	700.8	704.5	705.5
15°	680.1	683.8	689.5	695.1	696.1
17.5°	666.9	670.7	678.2	684.8	686.7
20°	650.9	655.6	664.1	671.6	674.4
22.5°	634.9	638.7	649.0	658.4	661.3
25°	615.2	620.8	634.0	642.4	646.2
27.5°	594.5	601.1	614.2	625.5	629.3
30°	572.8	579.4	593.5	607.6	612.3
32.5°	550.3	557.8	574.7	588.8	593.5
35°	526.7	533.3	551.2	568.1	573.8
37.5°	502.3	507.9	528.6	546.5	552.1
40°	476.0	483.5	505.1	525.8	531.4
42.5°	449.6	458.1	479.7	502.3	507.9
45°	423.3	432.7	455.3	478.8	485.4
47.5°	397.9	405.4	430.8	453.4	462.8
50°	370.6	378.1	402.6	428.0	437.4
52.5°	342.4	352.7	379.1	403.5	414.8
55°	315.1	325.5	352.7	377.2	387.5
57.5°	289.7	298.2	326.4	351.8	362.1
60°	262.4	270.0	300.1	327.3	336.7
62.5°	233.3	244.6	275.6	301.0	312.3
65°	206.9	219.2	252.1	276.5	287.8
67.5°	182.5	193.8	225.7	252.1	264.3
70°	154.3	169.3	202.2	228.6	239.9
72.5°	131.7	144.9	178.7	205.1	217.3
75°	105.3	121.3	155.2	181.5	190.9
77.5°	83.7	99.7	131.7	152.4	157.1
80°	61.1	77.1	107.2	117.6	120.4
82.5°	41.4	56.4	77.1	80.0	80.9
85°	25.4	34.8	45.1	45.1	45.1
87.5°	12.2	14.1	16.0	15.0	15.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)