

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: P308904

Luminaire Tested: **22FCZ2-20HE-UNV-L82765-S-CP187-W2A-U-5700K**

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: P308904
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-5700K
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: 2002.0 lumens
Efficiency: N/A
Efficacy: 116.4 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

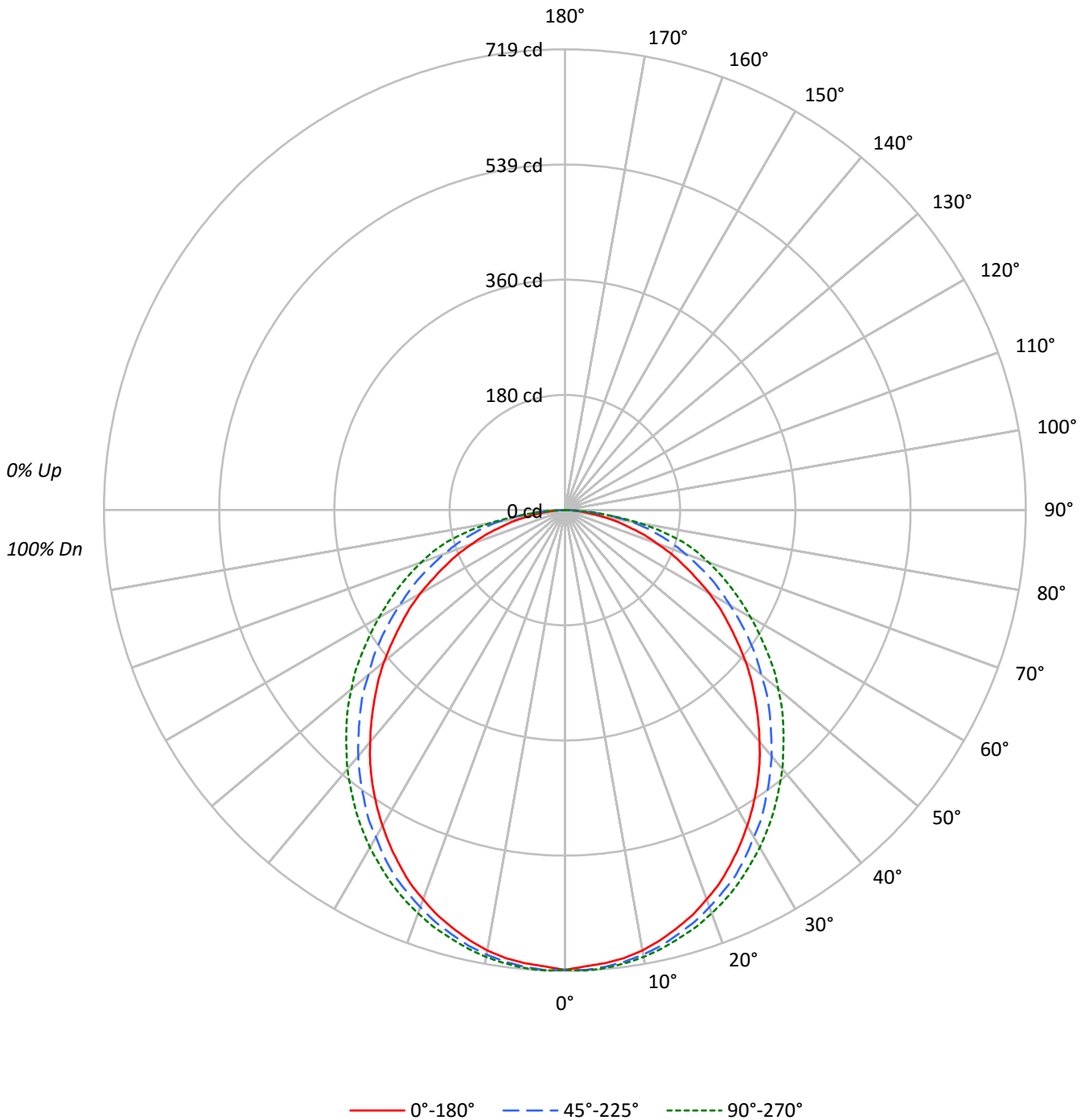
Input Watts (W): 17.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1931	1931	1931
5°	1918	1933	1938
10°	1907	1924	1935
15°	1881	1908	1926
20°	1851	1889	1918
25°	1814	1869	1905
30°	1768	1831	1890
35°	1718	1798	1872
40°	1660	1762	1854
45°	1600	1721	1834
50°	1541	1674	1819
55°	1468	1643	1805
60°	1403	1604	1800
65°	1309	1594	1820
70°	1205	1580	1874
75°	1088	1602	1971
80°	941	1650	1853
85°	778	1383	1383



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.8	3.4
10°-20°	193.1	9.6
20°-30°	288.9	14.4
30°-40°	342.1	17.1
40°-50°	348.6	17.4
50°-60°	312.5	15.6
60°-70°	244.6	12.2
70°-80°	157.8	7.9
80°-90°	46.6	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°	549.8	27.5
0°-40°	891.9	44.5
0°-60°	1553.0	77.6
0°-90°	2002.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2002.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	717	717	717	717	717	
5°	710	712	716	716	717	67
15°	675	679	685	690	691	190
25°	611	616	630	638	642	281
35°	523	530	547	564	570	327
45°	420	430	452	476	482	325
55°	313	323	350	375	385	281
65°	206	218	250	275	286	204
75°	105	120	154	180	190	112
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°	717.4	717.4	717.4	717.4	717.4
2.5°	712.7	714.6	718.3	719.2	719.2
5°	709.9	711.8	715.5	716.4	717.4
7.5°	705.2	706.2	710.8	712.7	713.6
10°	697.8	699.6	704.3	707.1	708.0
12.5°	687.5	690.3	695.9	699.6	700.6
15°	675.3	679.1	684.7	690.3	691.2
17.5°	662.3	666.0	673.5	680.0	681.9
20°	646.4	651.1	659.5	666.9	669.7
22.5°	630.5	634.2	644.5	653.9	656.7
25°	610.9	616.5	629.6	638.0	641.7
27.5°	590.3	596.9	610.0	621.2	624.9
30°	568.9	575.4	589.4	603.4	608.1
32.5°	546.4	553.9	570.7	584.7	589.4
35°	523.1	529.6	547.4	564.2	569.8
37.5°	498.8	504.4	525.0	542.7	548.3
40°	472.6	480.1	501.6	522.2	527.8
42.5°	446.5	454.9	476.4	498.8	504.4
45°	420.3	429.7	452.1	475.5	482.0
47.5°	395.1	402.6	427.8	450.2	459.6
50°	368.0	375.5	399.8	425.0	434.4
52.5°	340.0	350.3	376.4	400.7	411.9
55°	312.9	323.2	350.3	374.6	384.8
57.5°	287.7	296.1	324.1	349.3	359.6
60°	260.6	268.1	298.0	325.1	334.4
62.5°	231.7	242.9	273.7	298.9	310.1
65°	205.5	217.6	250.3	274.6	285.8
67.5°	181.2	192.4	224.2	250.3	262.5
70°	153.2	168.1	200.8	227.0	238.2
72.5°	130.8	143.8	177.5	203.6	215.8
75°	104.6	120.5	154.1	180.3	189.6
77.5°	83.1	99.0	130.8	151.3	156.0
80°	60.7	76.6	106.5	116.8	119.6
82.5°	41.1	56.0	76.6	79.4	80.3
85°	25.2	34.6	44.8	44.8	44.8
87.5°	12.1	14.0	15.9	14.9	14.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)