

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: P312912

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-S-CP250-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

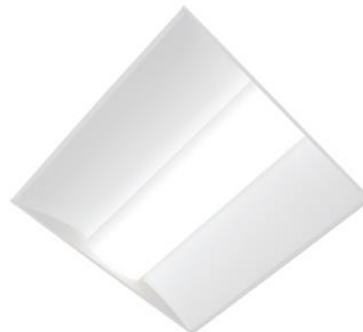
Test Method: LM-79-08
Report Number: P312912
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-20HE-UNV-L83050-S-CP250-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 2000.0 lumens
Efficiency: N/A
Efficacy: 117.0 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

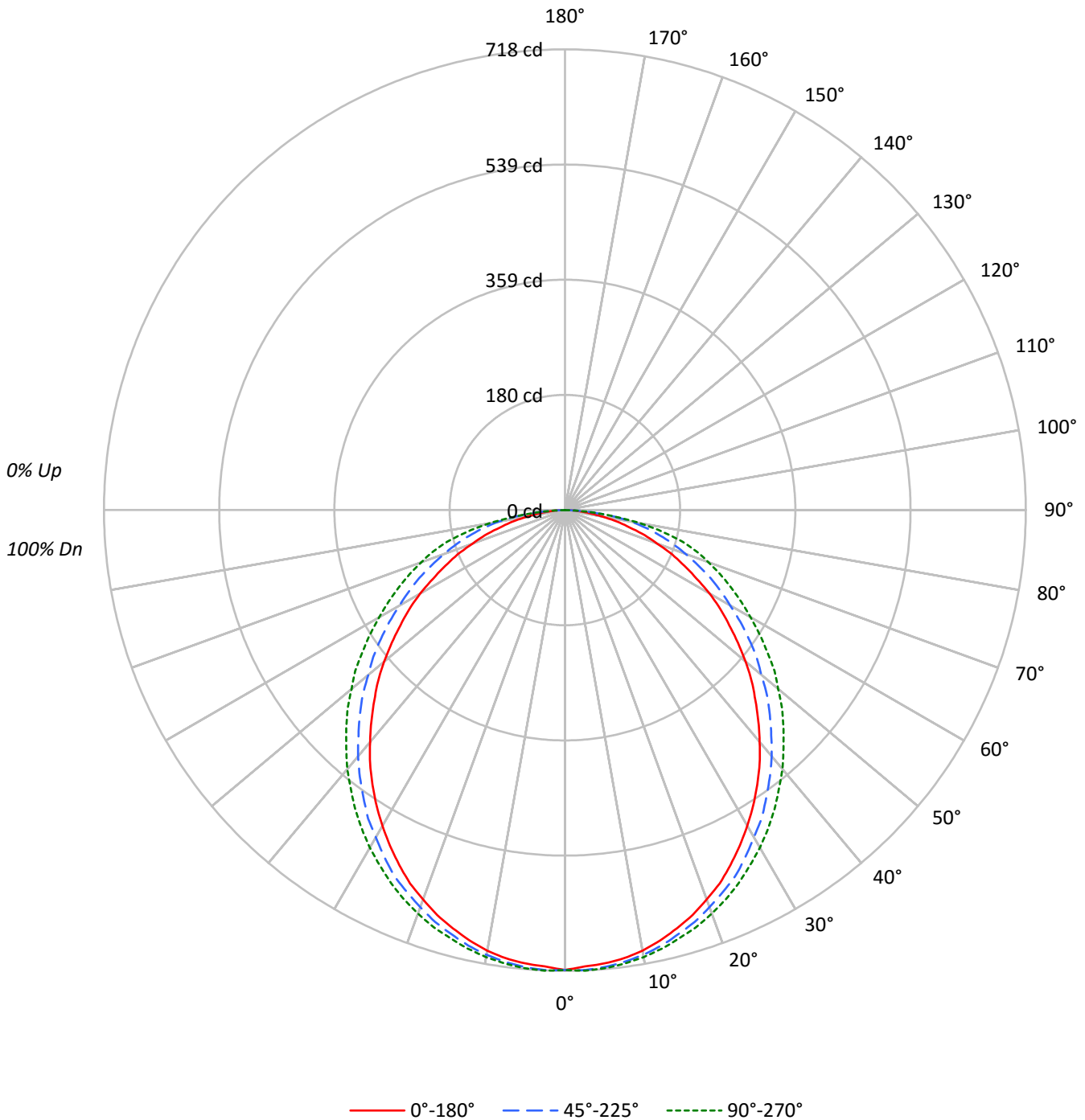
Input Watts (W): 17.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1929	1929	1929
5°	1916	1931	1936
10°	1905	1923	1933
15°	1880	1906	1924
20°	1849	1887	1916
25°	1812	1867	1904
30°	1766	1830	1888
35°	1717	1796	1870
40°	1659	1760	1852
45°	1598	1719	1832
50°	1539	1672	1816
55°	1467	1642	1804
60°	1401	1602	1798
65°	1307	1592	1818
70°	1204	1578	1873
75°	1087	1601	1969
80°	941	1649	1850
85°	778	1383	1383



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.8	3.4
10°-20°	192.9	9.6
20°-30°	288.6	14.4
30°-40°	341.8	17.1
40°-50°	348.3	17.4
50°-60°	312.2	15.6
60°-70°	244.4	12.2
70°-80°	157.6	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°	549.2	27.5
0°-40°	891.0	44.5
0°-60°	1551.4	77.6
0°-90°	2000.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2000.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	717	717	717	717	717	
5°	709	711	715	716	717	67
15°	675	678	684	690	690	190
25°	610	616	629	637	641	281
35°	523	529	547	564	569	327
45°	420	429	452	475	482	324
55°	313	323	350	374	384	280
65°	205	217	250	274	286	204
75°	104	120	154	180	189	112
85°	25	34	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°	716.7	716.7	716.7	716.7	716.7
2.5°	712.0	713.9	717.6	718.5	718.5
5°	709.2	711.1	714.8	715.7	716.7
7.5°	704.5	705.5	710.1	712.0	712.9
10°	697.1	698.9	703.6	706.4	707.3
12.5°	686.8	689.6	695.2	698.9	699.9
15°	674.7	678.4	684.0	689.6	690.5
17.5°	661.6	665.3	672.8	679.3	681.2
20°	645.7	650.4	658.8	666.3	669.1
22.5°	629.9	633.6	643.9	653.2	656.0
25°	610.3	615.9	628.9	637.3	641.1
27.5°	589.8	596.3	609.3	620.5	624.3
30°	568.3	574.8	588.8	602.8	607.5
32.5°	545.9	553.4	570.2	584.2	588.8
35°	522.6	529.1	546.8	563.6	569.2
37.5°	498.3	503.9	524.4	542.2	547.8
40°	472.2	479.6	501.1	521.6	527.2
42.5°	446.0	454.4	475.9	498.3	503.9
45°	419.9	429.3	451.6	475.0	481.5
47.5°	394.7	402.2	427.4	449.8	459.1
50°	367.7	375.1	399.4	424.6	433.9
52.5°	339.7	349.9	376.1	400.3	411.5
55°	312.6	322.9	349.9	374.2	384.5
57.5°	287.4	295.8	323.8	349.0	359.3
60°	260.3	267.8	297.7	324.7	334.1
62.5°	231.4	242.6	273.4	298.6	309.8
65°	205.3	217.4	250.1	274.3	285.5
67.5°	181.0	192.2	224.0	250.1	262.2
70°	153.0	168.0	200.6	226.8	238.0
72.5°	130.6	143.7	177.3	203.4	215.6
75°	104.5	120.4	154.0	180.1	189.4
77.5°	83.1	98.9	130.6	151.2	155.8
80°	60.7	76.5	106.4	116.6	119.4
82.5°	41.1	56.0	76.5	79.3	80.3
85°	25.2	34.5	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)