

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: P312913

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-S-CP250-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: P312913
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-4500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 2019.0 lumens
Efficiency: N/A
Efficacy: 115.4 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

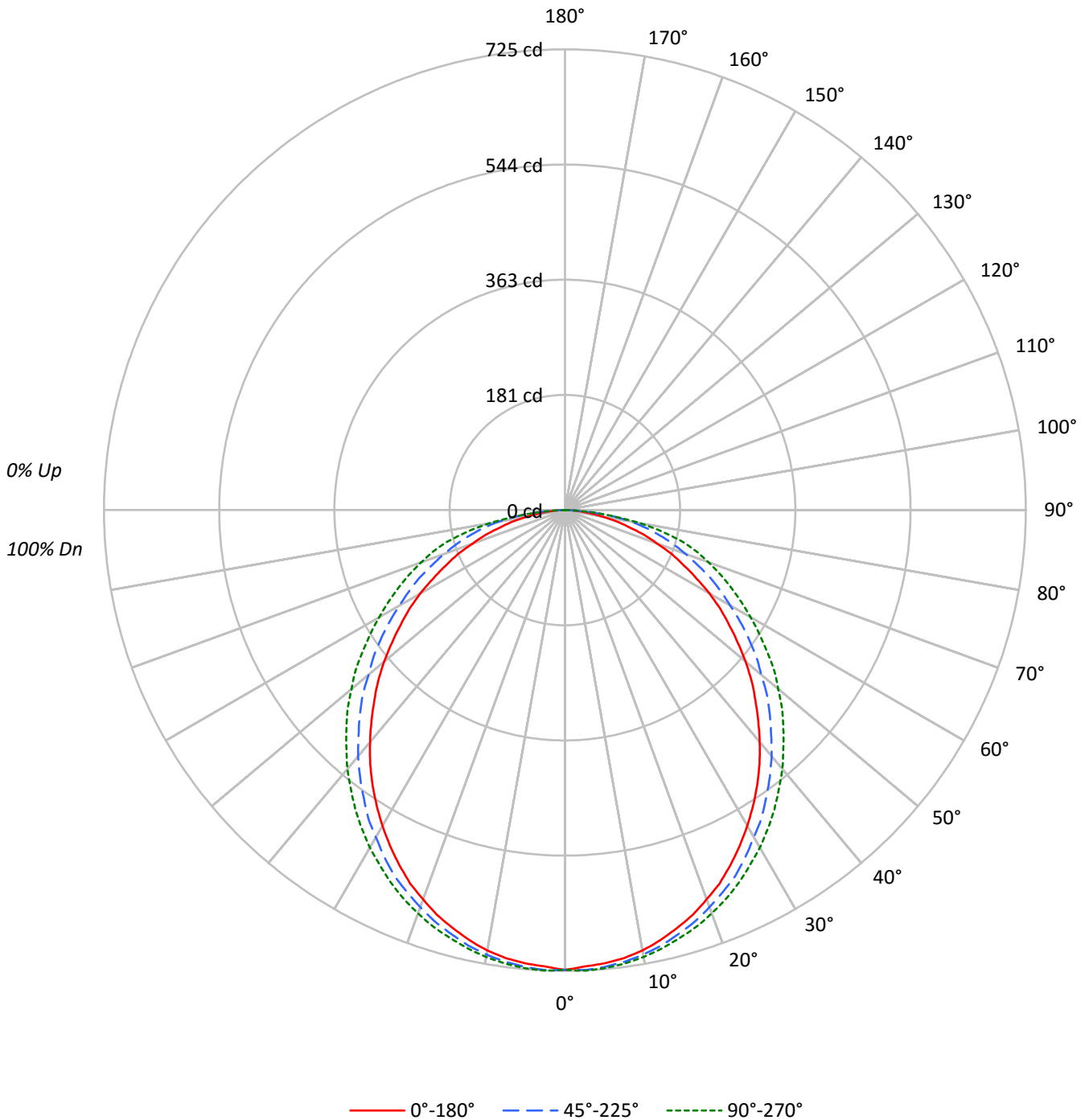
Input Watts (W): 17.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1947	1947	1947
5°	1934	1949	1954
10°	1923	1941	1951
15°	1897	1924	1942
20°	1867	1905	1934
25°	1829	1885	1922
30°	1783	1847	1906
35°	1733	1813	1888
40°	1675	1777	1870
45°	1613	1735	1850
50°	1554	1688	1834
55°	1481	1658	1821
60°	1414	1617	1815
65°	1319	1608	1836
70°	1216	1593	1890
75°	1097	1616	1988
80°	948	1664	1869
85°	784	1396	1396



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.4	3.4
10°-20°	194.7	9.6
20°-30°	291.3	14.4
30°-40°	345.0	17.1
40°-50°	351.6	17.4
50°-60°	315.1	15.6
60°-70°	246.7	12.2
70°-80°	159.1	7.9
80°-90°	47.0	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°	554.4	27.5
0°-40°	899.5	44.5
0°-60°	1566.2	77.6
0°-90°	2019.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2019.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	724	724	724	724	724	
5°	716	718	722	722	724	68
15°	681	685	690	696	697	192
25°	616	622	635	643	647	284
35°	528	534	552	569	575	330
45°	424	433	456	480	486	327
55°	316	326	353	378	388	283
65°	207	220	252	277	288	206
75°	106	122	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°	723.5	723.5	723.5	723.5	723.5
2.5°	718.8	720.6	724.4	725.4	725.4
5°	715.9	717.8	721.6	722.5	723.5
7.5°	711.2	712.2	716.9	718.8	719.7
10°	703.7	705.6	710.3	713.1	714.1
12.5°	693.3	696.2	701.8	705.6	706.5
15°	681.1	684.8	690.5	696.2	697.1
17.5°	667.9	671.7	679.2	685.8	687.7
20°	651.9	656.6	665.1	672.6	675.4
22.5°	635.9	639.6	650.0	659.4	662.2
25°	616.1	621.7	634.9	643.4	647.2
27.5°	595.4	602.0	615.1	626.4	630.2
30°	573.7	580.3	594.4	608.5	613.3
32.5°	551.1	558.6	575.6	589.7	594.4
35°	527.5	534.1	552.0	569.0	574.6
37.5°	503.0	508.7	529.4	547.3	553.0
40°	476.7	484.2	505.9	526.6	532.2
42.5°	450.3	458.8	480.4	503.0	508.7
45°	423.9	433.3	455.9	479.5	486.1
47.5°	398.5	406.0	431.4	454.1	463.5
50°	371.2	378.7	403.2	428.6	438.0
52.5°	342.9	353.3	379.6	404.1	415.4
55°	315.6	325.9	353.3	377.7	388.1
57.5°	290.1	298.6	326.9	352.3	362.7
60°	262.8	270.4	300.5	327.8	337.2
62.5°	233.6	244.9	276.0	301.4	312.8
65°	207.2	219.5	252.5	277.0	288.3
67.5°	182.8	194.1	226.1	252.5	264.7
70°	154.5	169.6	202.5	228.9	240.2
72.5°	131.9	145.1	179.0	205.4	217.6
75°	105.5	121.5	155.4	181.8	191.2
77.5°	83.8	99.9	131.9	152.6	157.3
80°	61.2	77.2	107.4	117.8	120.6
82.5°	41.4	56.5	77.2	80.1	81.0
85°	25.4	34.9	45.2	45.2	45.2
87.5°	12.2	14.1	16.0	15.1	15.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)