

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: P312493

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-HRP-CA08-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: P312493
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-22)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-29HE-UNV-L83050-HRP-CA08-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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: 2191.0 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

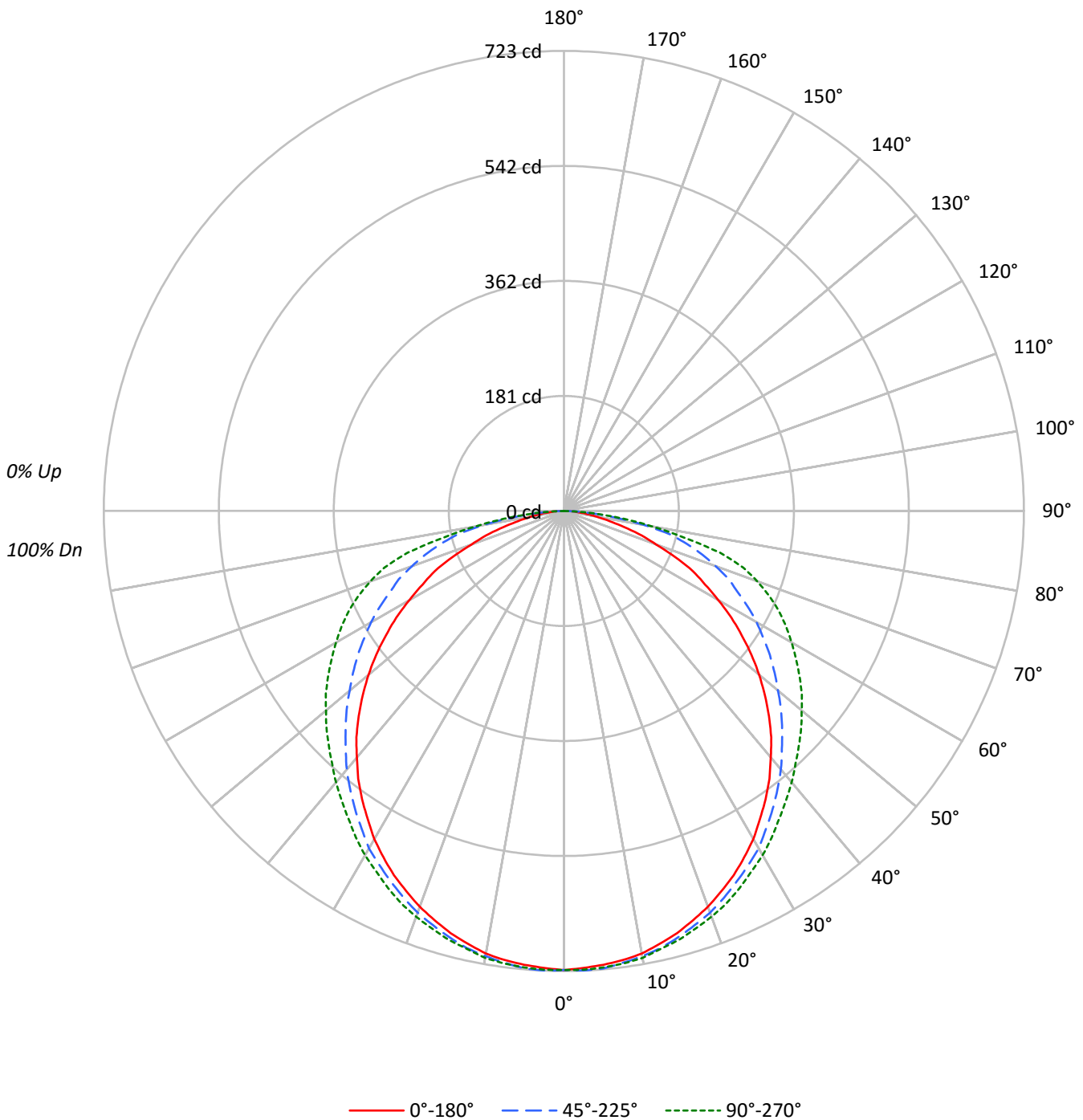
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	101	96	93	96	93	90	92	90	87	89	87	84	82
2	98	89	82	76	95	87	80	75	84	78	73	80	75	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1942	1942	1942
5°	1934	1949	1945
10°	1930	1941	1949
15°	1914	1933	1945
20°	1896	1924	1943
25°	1875	1908	1941
30°	1851	1903	1941
35°	1816	1880	1939
40°	1777	1864	1957
45°	1736	1846	1988
50°	1678	1840	2043
55°	1602	1855	2121
60°	1510	1882	2224
65°	1426	1918	2376
70°	1218	2001	2544
75°	1020	2084	2644
80°	835	2013	2207
85°	726	1494	1621



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.4	3.1
10°-20°	195.6	8.9
20°-30°	296.4	13.5
30°-40°	357.9	16.3
40°-50°	376.1	17.2
50°-60°	353.9	16.2
60°-70°	295.1	13.5
70°-80°	195.5	8.9
80°-90°	52.1	2.4
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°	560.4	25.6
0°-40°	918.3	41.9
0°-60°	1648.3	75.2
0°-90°	2191.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2191.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	722	722	722	722	722	
5°	716	717	722	722	720	68
15°	687	690	694	697	698	194
25°	632	636	643	651	654	291
35°	553	558	572	585	590	346
45°	456	463	485	510	522	351
55°	341	357	395	435	452	305
65°	224	243	301	351	373	218
75°	98	137	200	242	254	107
85°	24	36	48	52	52	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	721.5	721.5	721.5	721.5	721.5
2.5°	718.7	720.1	722.9	722.9	721.5
5°	715.9	717.3	721.5	721.5	720.1
7.5°	711.8	713.2	715.9	718.7	717.3
10°	706.3	707.7	710.4	713.2	713.2
12.5°	696.6	698.0	703.5	704.9	704.9
15°	686.9	689.7	693.8	696.6	698.0
17.5°	674.5	677.2	682.8	688.3	688.3
20°	662.0	664.8	671.7	677.2	678.6
22.5°	646.8	651.0	657.9	664.8	667.6
25°	631.6	635.8	642.7	651.0	653.7
27.5°	613.7	617.8	627.5	637.2	638.5
30°	595.7	599.8	612.3	620.6	624.7
32.5°	573.6	579.1	591.6	604.0	608.1
35°	552.9	558.4	572.2	584.6	590.2
37.5°	530.7	536.3	551.5	566.7	573.6
40°	505.9	512.8	530.7	547.3	557.0
42.5°	482.4	489.3	507.2	529.4	539.0
45°	456.1	463.0	485.1	510.0	522.4
47.5°	428.5	436.8	463.0	493.4	505.9
50°	400.8	410.5	439.5	474.1	487.9
52.5°	371.8	384.2	417.4	454.7	471.3
55°	341.4	356.6	395.3	435.4	452.0
57.5°	312.4	326.2	371.8	414.6	432.6
60°	280.6	298.5	349.7	393.9	413.3
62.5°	250.2	269.5	326.2	373.2	393.9
65°	223.9	243.3	301.3	351.1	373.2
67.5°	189.4	215.6	280.6	327.6	349.7
70°	154.8	190.7	254.3	302.7	323.4
72.5°	128.5	163.1	228.1	276.4	295.8
75°	98.1	136.8	200.4	241.9	254.3
77.5°	73.3	113.3	171.4	192.1	193.5
80°	53.9	87.1	129.9	136.8	142.4
82.5°	37.3	60.8	84.3	92.6	95.4
85°	23.5	35.9	48.4	52.5	52.5
87.5°	12.4	13.8	16.6	16.6	16.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)