

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: P308987

Luminaire Tested: **22FCZ2-29HE-UNV-L82765-S-CP187-W2A-U-2700K**

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: P308987
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: 22FCZ2-29HE-UNV-L82765-S-CP187-W2A-U-2700K
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: 2324.0 lumens
Efficiency: N/A
Efficacy: 103.7 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

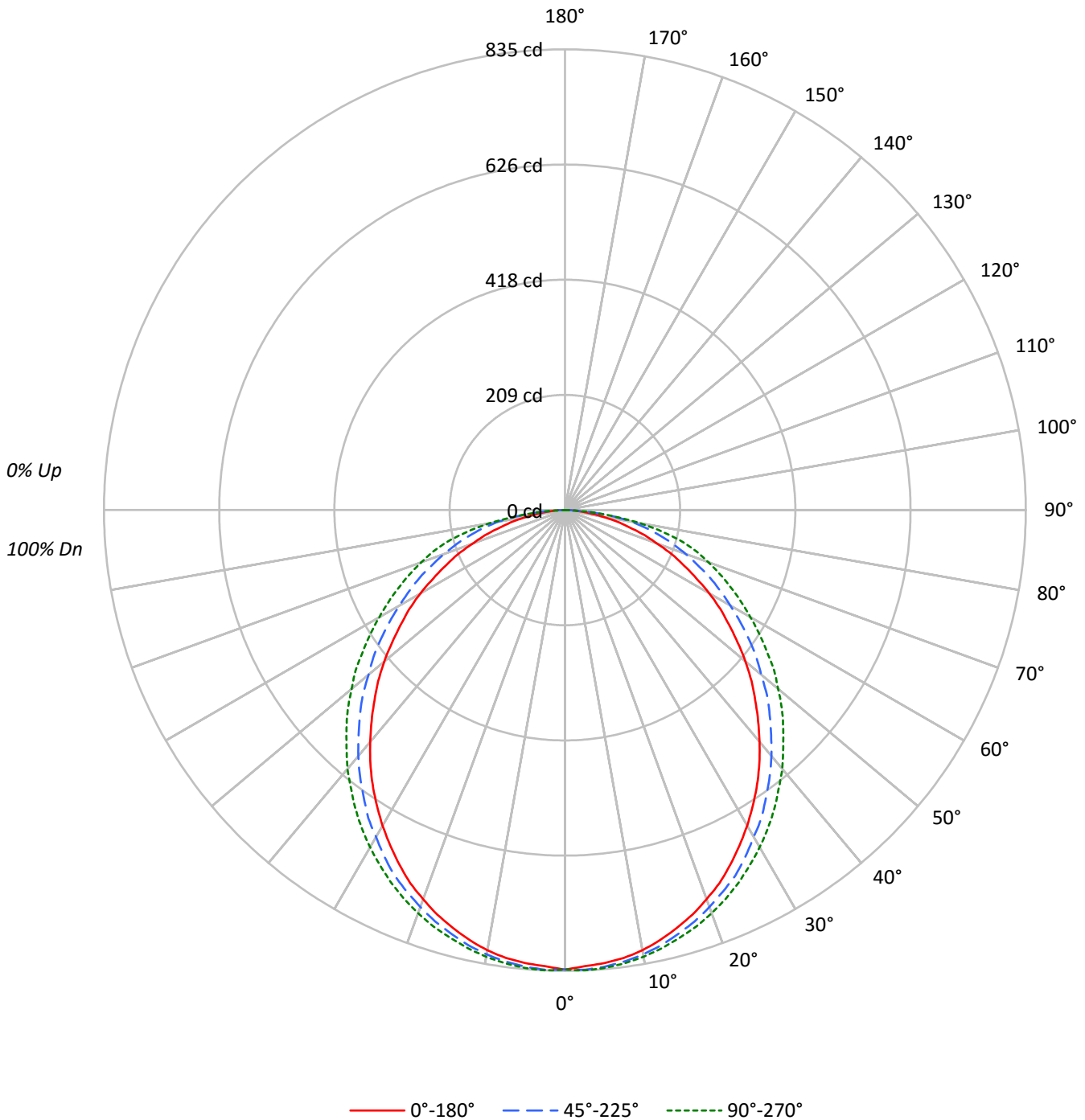
Input Watts (W): 22.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2241	2241	2241
5°	2226	2244	2250
10°	2213	2234	2246
15°	2184	2214	2235
20°	2149	2192	2227
25°	2105	2170	2212
30°	2052	2126	2193
35°	1995	2087	2173
40°	1927	2046	2152
45°	1857	1997	2129
50°	1788	1943	2111
55°	1704	1908	2096
60°	1628	1862	2089
65°	1519	1850	2113
70°	1399	1834	2175
75°	1262	1860	2288
80°	1093	1915	2151
85°	905	1606	1606



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.8	3.4
10°-20°	224.1	9.6
20°-30°	335.3	14.4
30°-40°	397.1	17.1
40°-50°	404.7	17.4
50°-60°	362.7	15.6
60°-70°	284.0	12.2
70°-80°	183.1	7.9
80°-90°	54.1	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°	638.2	27.5
0°-40°	1035.3	44.5
0°-60°	1802.8	77.6
0°-90°	2324.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2324.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	833	833	833	833	833	
5°	824	826	831	832	833	78
15°	784	788	795	801	802	221
25°	709	716	731	741	745	326
35°	607	615	635	655	661	379
45°	488	499	525	552	560	377
55°	363	375	407	435	447	326
65°	239	253	291	319	332	237
75°	121	140	179	209	220	130
85°	29	40	52	52	52	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	832.8	832.8	832.8	832.8	832.8
2.5°	827.3	829.5	833.8	834.9	834.9
5°	824.1	826.3	830.6	831.7	832.8
7.5°	818.7	819.7	825.2	827.3	828.4
10°	810.0	812.2	817.6	820.8	821.9
12.5°	798.1	801.3	807.8	812.2	813.2
15°	784.0	788.3	794.8	801.3	802.4
17.5°	768.8	773.1	781.8	789.4	791.6
20°	750.4	755.8	765.5	774.2	777.5
22.5°	731.9	736.3	748.2	759.0	762.3
25°	709.1	715.7	730.8	740.6	744.9
27.5°	685.3	692.9	708.1	721.1	725.4
30°	660.4	667.9	684.2	700.5	705.9
32.5°	634.3	643.0	662.5	678.8	684.2
35°	607.2	614.8	635.4	654.9	661.4
37.5°	579.0	585.5	609.4	630.0	636.5
40°	548.7	557.3	582.3	606.1	612.6
42.5°	518.3	528.1	553.0	579.0	585.5
45°	487.9	498.8	524.8	551.9	559.5
47.5°	458.7	467.3	496.6	522.6	533.5
50°	427.2	435.9	464.1	493.4	504.2
52.5°	394.7	406.6	437.0	465.2	478.2
55°	363.2	375.2	406.6	434.8	446.7
57.5°	334.0	343.7	376.3	405.5	417.5
60°	302.5	311.2	345.9	377.3	388.2
62.5°	268.9	281.9	317.7	347.0	360.0
65°	238.6	252.6	290.6	318.8	331.8
67.5°	210.4	223.4	260.2	290.6	304.7
70°	177.8	195.2	233.1	263.5	276.5
72.5°	151.8	167.0	206.0	236.4	250.5
75°	121.4	139.9	178.9	209.3	220.1
77.5°	96.5	114.9	151.8	175.7	181.1
80°	70.5	88.9	123.6	135.5	138.8
82.5°	47.7	65.1	88.9	92.2	93.3
85°	29.3	40.1	52.0	52.0	52.0
87.5°	14.1	16.3	18.4	17.3	17.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)