

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: P312934

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-S-CP187-W2A-U-5000K**

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: P312934
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: 22FCZ2-24HE-UNV-L83050-S-CP187-W2A-U-5000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5000K 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: 2296.0 lumens
Efficiency: N/A
Efficacy: 116.0 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

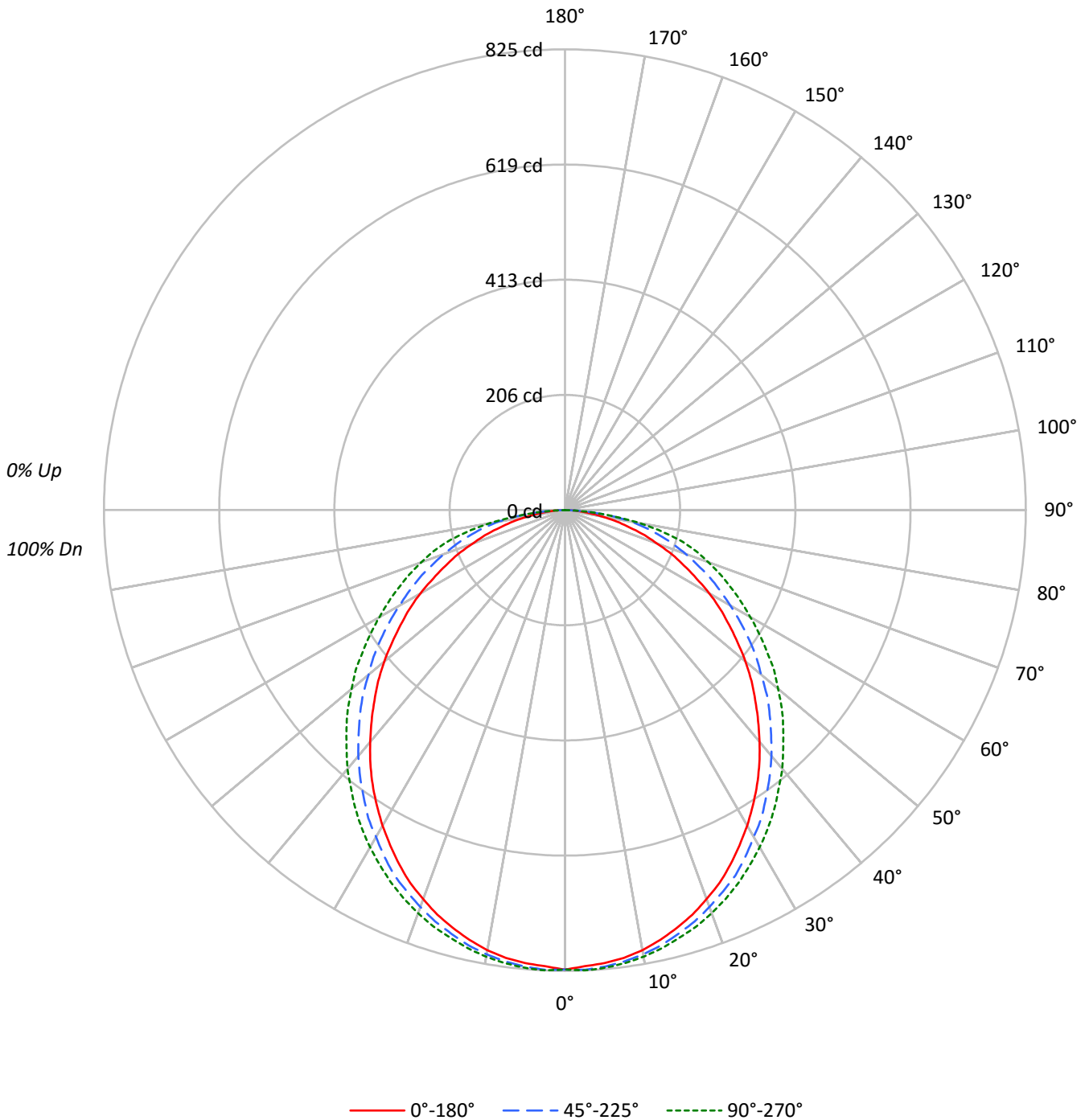
Input Watts (W): 19.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2214	2214	2214
5°	2199	2217	2222
10°	2187	2207	2219
15°	2158	2187	2208
20°	2123	2166	2200
25°	2080	2144	2185
30°	2027	2101	2167
35°	1971	2062	2147
40°	1904	2021	2126
45°	1835	1973	2104
50°	1767	1919	2085
55°	1684	1885	2071
60°	1609	1839	2064
65°	1501	1828	2087
70°	1382	1812	2150
75°	1248	1838	2261
80°	1079	1892	2125
85°	892	1587	1587



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.8	3.4
10°-20°	221.4	9.6
20°-30°	331.3	14.4
30°-40°	392.3	17.1
40°-50°	399.8	17.4
50°-60°	358.4	15.6
60°-70°	280.6	12.2
70°-80°	180.9	7.9
80°-90°	53.4	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°	630.5	27.5
0°-40°	1022.9	44.5
0°-60°	1781.1	77.6
0°-90°	2296.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2296.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	823	823	823	823	823	
5°	814	816	821	822	823	77
15°	774	779	785	792	793	218
25°	701	707	722	732	736	323
35°	600	607	628	647	654	375
45°	482	493	518	545	553	372
55°	359	371	402	430	441	322
65°	236	250	287	315	328	234
75°	120	138	177	207	218	129
85°	29	40	51	51	51	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	822.7	822.7	822.7	822.7	822.7
2.5°	817.4	819.5	823.8	824.9	824.9
5°	814.2	816.3	820.6	821.7	822.7
7.5°	808.8	809.9	815.2	817.4	818.4
10°	800.2	802.4	807.7	810.9	812.0
12.5°	788.4	791.7	798.1	802.4	803.4
15°	774.5	778.8	785.2	791.7	792.7
17.5°	759.5	763.8	772.4	779.9	782.0
20°	741.3	746.7	756.3	764.9	768.1
22.5°	723.1	727.4	739.2	749.9	753.1
25°	700.6	707.0	722.0	731.7	736.0
27.5°	677.0	684.5	699.5	712.4	716.7
30°	652.4	659.9	676.0	692.0	697.4
32.5°	626.7	635.3	654.5	670.6	676.0
35°	599.9	607.4	627.8	647.0	653.5
37.5°	572.1	578.5	602.0	622.4	628.8
40°	542.1	550.6	575.3	598.8	605.3
42.5°	512.1	521.7	546.3	572.1	578.5
45°	482.1	492.8	518.5	545.3	552.8
47.5°	453.1	461.7	490.6	516.3	527.1
50°	422.1	430.6	458.5	487.4	498.1
52.5°	389.9	401.7	431.7	459.6	472.4
55°	358.9	370.7	401.7	429.6	441.4
57.5°	329.9	339.6	371.7	400.7	412.4
60°	298.9	307.5	341.7	372.8	383.5
62.5°	265.7	278.5	313.9	342.8	355.7
65°	235.7	249.6	287.1	315.0	327.8
67.5°	207.8	220.7	257.1	287.1	301.0
70°	175.7	192.8	230.3	260.3	273.2
72.5°	150.0	165.0	203.5	233.5	247.5
75°	120.0	138.2	176.8	206.8	217.5
77.5°	95.3	113.6	150.0	173.5	178.9
80°	69.6	87.8	122.1	133.9	137.1
82.5°	47.1	64.3	87.8	91.1	92.1
85°	28.9	39.6	51.4	51.4	51.4
87.5°	13.9	16.1	18.2	17.1	17.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)