

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: P312932

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-S-CP187-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: P312932
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-4000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" 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

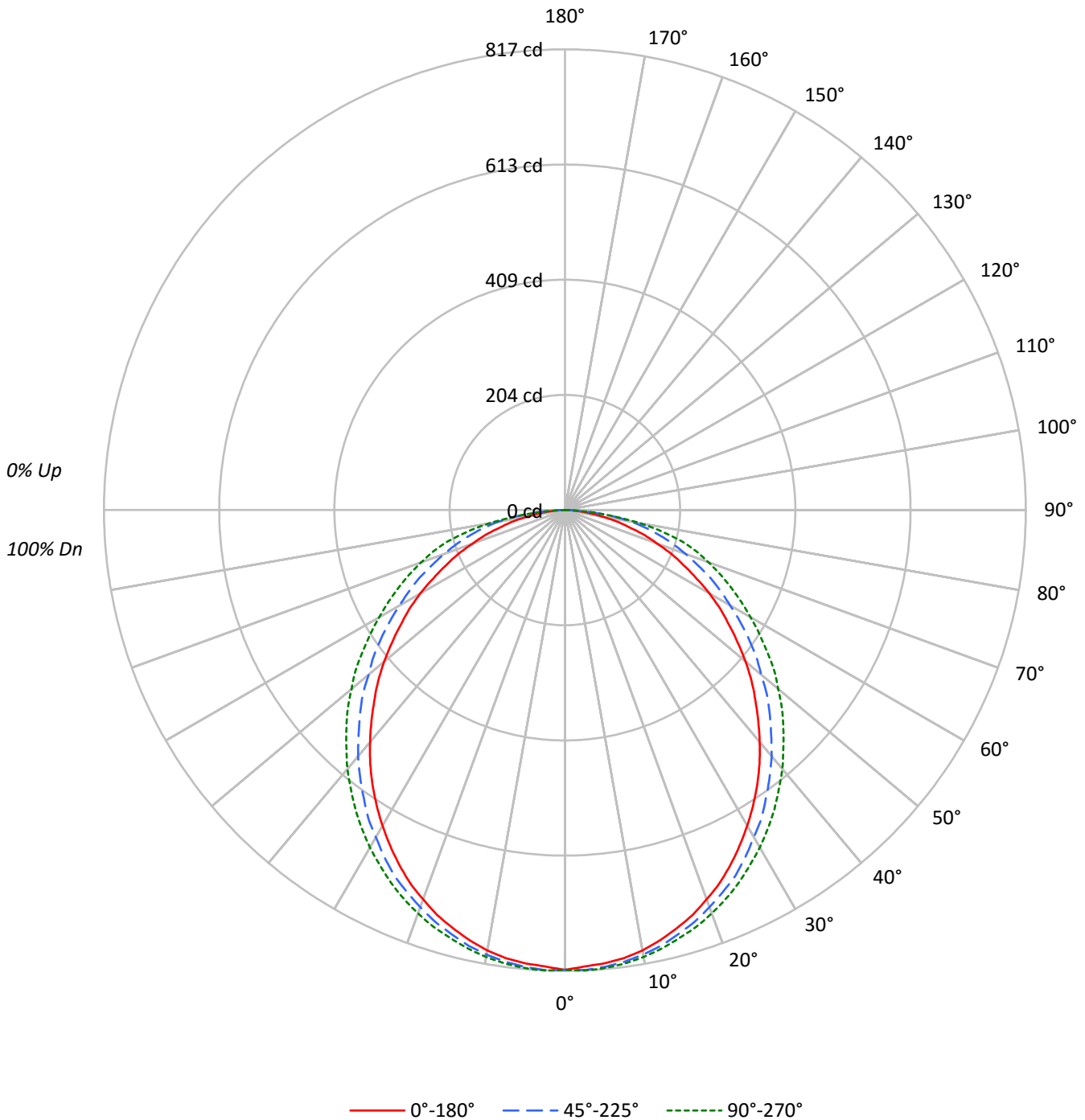
Lumens per Lamp: N/A
Luminaire Lumens: 2275.0 lumens
Efficiency: N/A
Efficacy: 117.9 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
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°	2194	2194	2194
5°	2179	2196	2202
10°	2167	2187	2199
15°	2138	2168	2188
20°	2103	2146	2180
25°	2061	2124	2165
30°	2009	2081	2147
35°	1953	2043	2127
40°	1887	2002	2107
45°	1818	1955	2084
50°	1751	1902	2066
55°	1668	1867	2052
60°	1594	1822	2045
65°	1487	1812	2068
70°	1370	1795	2130
75°	1236	1821	2241
80°	1069	1875	2106
85°	886	1575	1575



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.1	3.4
10°-20°	219.4	9.6
20°-30°	328.3	14.4
30°-40°	388.7	17.1
40°-50°	396.2	17.4
50°-60°	355.1	15.6
60°-70°	278.0	12.2
70°-80°	179.3	7.9
80°-90°	53.0	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°	624.7	27.5
0°-40°	1013.5	44.5
0°-60°	1764.8	77.6
0°-90°	2275.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2275.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	815	815	815	815	815	
5°	807	809	813	814	815	77
15°	767	772	778	784	786	216
25°	694	701	715	725	729	320
35°	594	602	622	641	648	371
45°	478	488	514	540	548	369
55°	356	367	398	426	437	319
65°	234	247	284	312	325	232
75°	119	137	175	205	216	127
85°	29	39	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°	815.2	815.2	815.2	815.2	815.2
2.5°	809.9	812.0	816.3	817.3	817.3
5°	806.7	808.8	813.1	814.1	815.2
7.5°	801.4	802.5	807.8	809.9	811.0
10°	792.9	795.0	800.3	803.5	804.6
12.5°	781.2	784.4	790.8	795.0	796.1
15°	767.4	771.7	778.1	784.4	785.5
17.5°	752.6	756.8	765.3	772.7	774.9
20°	734.5	739.8	749.4	757.9	761.1
22.5°	716.5	720.7	732.4	743.0	746.2
25°	694.2	700.6	715.4	725.0	729.2
27.5°	670.8	678.3	693.1	705.9	710.1
30°	646.4	653.9	669.8	685.7	691.0
32.5°	621.0	629.4	648.6	664.5	669.8
35°	594.4	601.8	622.0	641.1	647.5
37.5°	566.8	573.2	596.5	616.7	623.1
40°	537.1	545.6	570.0	593.4	599.7
42.5°	507.4	516.9	541.3	566.8	573.2
45°	477.7	488.3	513.7	540.3	547.7
47.5°	449.0	457.5	486.1	511.6	522.2
50°	418.2	426.7	454.3	483.0	493.6
52.5°	386.4	398.0	427.8	455.4	468.1
55°	355.6	367.3	398.0	425.6	437.3
57.5°	326.9	336.5	368.3	397.0	408.7
60°	296.1	304.6	338.6	369.4	380.0
62.5°	263.2	276.0	311.0	339.7	352.4
65°	233.5	247.3	284.5	312.1	324.8
67.5°	205.9	218.7	254.8	284.5	298.3
70°	174.1	191.1	228.2	257.9	270.7
72.5°	148.6	163.5	201.7	231.4	245.2
75°	118.9	136.9	175.1	204.9	215.5
77.5°	94.5	112.5	148.6	172.0	177.3
80°	69.0	87.0	121.0	132.7	135.9
82.5°	46.7	63.7	87.0	90.2	91.3
85°	28.7	39.3	51.0	51.0	51.0
87.5°	13.8	15.9	18.0	17.0	17.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)