

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: P312916

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-S-CA08-W2A-U-3500K**

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: P312916  
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-CA08-W2A-U-3500K  
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 3500K 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**

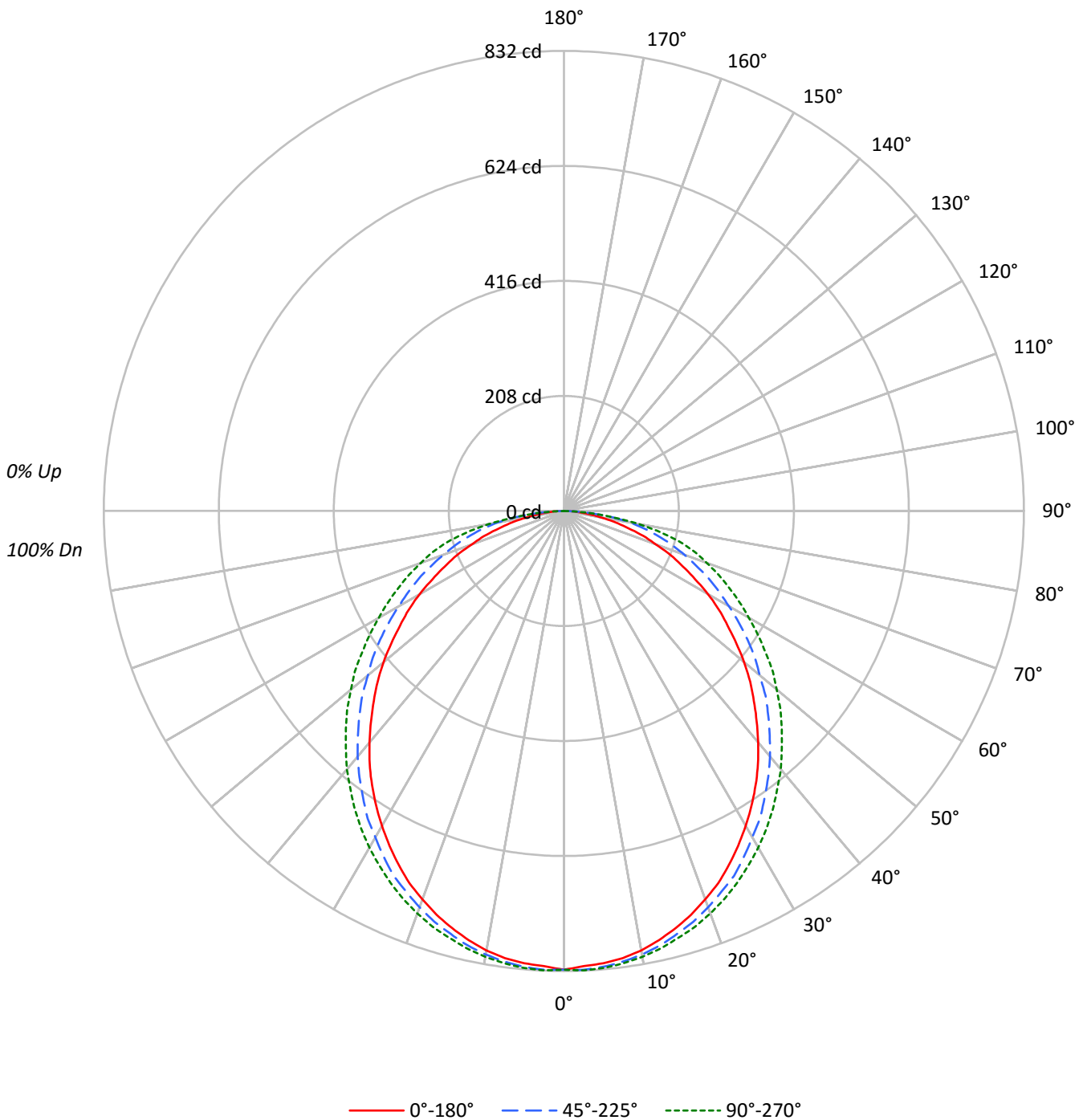
Lumens per Lamp: N/A  
Luminaire Lumens: 2315.0 lumens  
Efficiency: N/A  
Efficacy: 122.5 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 18.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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



TEST NUMBER: P312916

CATALOG NUMBER: 22FCZ2-24HE-UNV-L83050-S-CA08-W2A-U-3500K

### Luminous Intensity Polar Plot





TEST NUMBER: P312916

CATALOG NUMBER: 22FC22-24HE-UNV-L83050-S-CA08-W2A-U-3500K

**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°	2232	2232	2232
5°	2217	2235	2241
10°	2205	2225	2237
15°	2176	2206	2227
20°	2140	2184	2218
25°	2097	2162	2203
30°	2044	2118	2185
35°	1987	2079	2165
40°	1920	2037	2144
45°	1850	1990	2121
50°	1782	1935	2103
55°	1697	1900	2088
60°	1622	1855	2081
65°	1513	1843	2104
70°	1393	1827	2167
75°	1258	1853	2280
80°	1088	1908	2143
85°	902	1599	1599



TEST NUMBER: P312916

CATALOG NUMBER: 22FCZ2-24HE-UNV-L83050-S-CA08-W2A-U-3500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.4	3.4
10°-20°	223.2	9.6
20°-30°	334.0	14.4
30°-40°	395.6	17.1
40°-50°	403.2	17.4
50°-60°	361.3	15.6
60°-70°	282.9	12.2
70°-80°	182.4	7.9
80°-90°	53.9	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°	635.7	27.5
0°-40°	1031.3	44.5
0°-60°	1795.8	77.6
0°-90°	2315.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2315.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	830	830	830	830	830	
5°	821	823	827	828	830	78
15°	781	785	792	798	799	220
25°	706	713	728	738	742	325
35°	605	612	633	652	659	378
45°	486	497	523	550	557	375
55°	362	374	405	433	445	324
65°	238	252	290	318	330	236
75°	121	139	178	208	219	130
85°	29	40	52	52	52	34
90°	0	0	0	0	0	



TEST NUMBER: P312916

CATALOG NUMBER: 22FCZ2-24HE-UNV-L83050-S-CA08-W2A-U-3500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	829.5	829.5	829.5	829.5	829.5
2.5°	824.1	826.3	830.6	831.7	831.7
5°	820.9	823.1	827.4	828.5	829.5
7.5°	815.5	816.6	822.0	824.1	825.2
10°	806.9	809.0	814.4	817.7	818.7
12.5°	795.0	798.2	804.7	809.0	810.1
15°	780.9	785.3	791.7	798.2	799.3
17.5°	765.8	770.1	778.8	786.3	788.5
20°	747.4	752.8	762.6	771.2	774.5
22.5°	729.1	733.4	745.3	756.1	759.3
25°	706.4	712.9	728.0	737.7	742.0
27.5°	682.6	690.2	705.3	718.3	722.6
30°	657.8	665.4	681.6	697.8	703.2
32.5°	631.9	640.5	660.0	676.2	681.6
35°	604.9	612.4	633.0	652.4	658.9
37.5°	576.8	583.3	607.0	627.6	634.0
40°	546.5	555.2	580.0	603.8	610.3
42.5°	516.3	526.0	550.9	576.8	583.3
45°	486.1	496.9	522.8	549.8	557.3
47.5°	456.9	465.5	494.7	520.6	531.4
50°	425.6	434.2	462.3	491.5	502.3
52.5°	393.2	405.0	435.3	463.4	476.3
55°	361.8	373.7	405.0	433.1	445.0
57.5°	332.7	342.4	374.8	404.0	415.8
60°	301.4	310.0	344.6	375.9	386.7
62.5°	267.9	280.8	316.5	345.6	358.6
65°	237.6	251.7	289.5	317.6	330.5
67.5°	209.5	222.5	259.2	289.5	303.5
70°	177.1	194.4	232.2	262.5	275.4
72.5°	151.2	166.3	205.2	235.5	249.5
75°	121.0	139.3	178.2	208.5	219.3
77.5°	96.1	114.5	151.2	175.0	180.4
80°	70.2	88.6	123.1	135.0	138.3
82.5°	47.5	64.8	88.6	91.8	92.9
85°	29.2	40.0	51.8	51.8	51.8
87.5°	14.0	16.2	18.4	17.3	17.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)