

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: P313868

Luminaire Tested: **24FCZ2-35-UNV-L83050-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: P313868
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-35-UNV-L83050-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 3447.0 lumens
Efficiency: N/A
Efficacy: 117.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

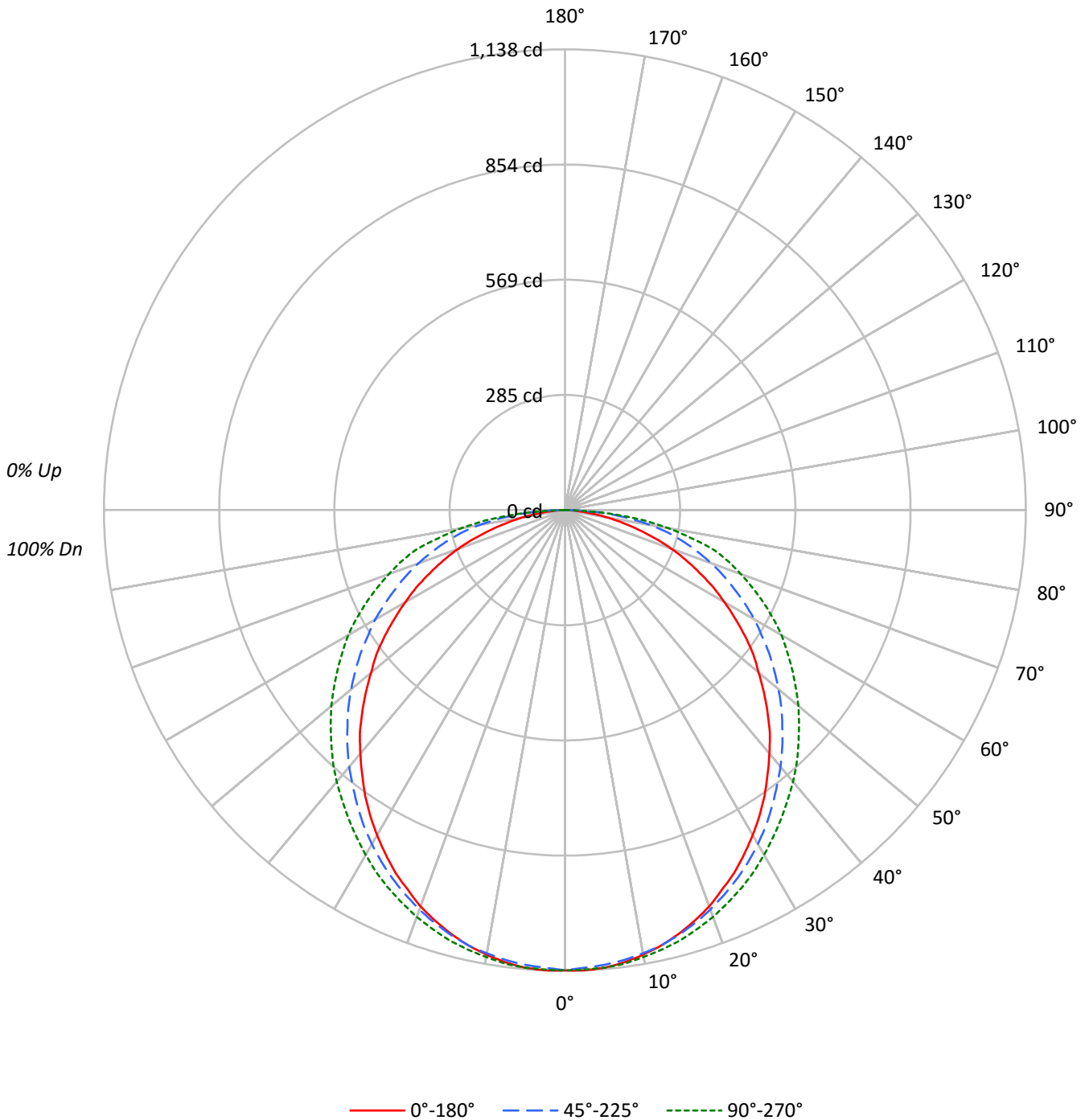
Input Watts (W): 29.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P313868

CATALOG NUMBER: 24FCZ2-35-UNV-L83050-CA08-W2A-U-4500K

Luminous Intensity Polar Plot





TEST NUMBER: P313868

CATALOG NUMBER: 24FCZ2-35-UNV-L83050-CA08-W2A-U-4500K

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	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	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°	1530	1530	1530
5°	1532	1523	1532
10°	1524	1519	1531
15°	1510	1513	1533
20°	1492	1503	1531
25°	1469	1492	1530
30°	1441	1480	1528
35°	1413	1465	1529
40°	1380	1454	1539
45°	1347	1445	1552
50°	1307	1441	1575
55°	1274	1443	1607
60°	1225	1456	1662
65°	1169	1471	1722
70°	1107	1516	1817
75°	987	1581	1986
80°	841	1675	2029
85°	601	1660	1942



TEST NUMBER: P313868

CATALOG NUMBER: 24FCZ2-35-UNV-L83050-CA08-W2A-U-4500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.6	3.1
10°-20°	307.6	8.9
20°-30°	464.6	13.5
30°-40°	560.0	16.2
40°-50°	587.9	17.1
50°-60°	550.0	16.0
60°-70°	454.2	13.2
70°-80°	309.5	9.0
80°-90°	105.6	3.1
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°	879.8	25.5
0°-40°	1439.8	41.8
0°-60°	2577.7	74.8
0°-90°	3447.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3447.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1137	1137	1137	1137	1137	
5°	1134	1133	1128	1134	1134	108
15°	1084	1085	1086	1098	1100	306
25°	989	994	1005	1025	1030	455
35°	860	869	892	922	931	537
45°	708	723	759	801	815	546
55°	543	565	615	666	685	485
65°	367	398	462	520	541	364
75°	190	233	304	361	382	202
85°	39	77	108	121	126	49
90°	0	0	0	0	0	



TEST NUMBER: P313868

CATALOG NUMBER: 24FC22-35-UNV-L83050-CA08-W2A-U-4500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1136.8	1136.8	1136.8	1136.8	1136.8
2.5°	1137.9	1136.8	1131.1	1136.8	1135.6
5°	1134.5	1133.4	1127.6	1134.5	1134.5
7.5°	1126.5	1126.5	1120.8	1128.8	1129.9
10°	1115.1	1115.1	1111.6	1120.8	1120.8
12.5°	1101.3	1101.3	1101.3	1110.5	1111.6
15°	1084.2	1085.3	1086.5	1097.9	1100.2
17.5°	1063.6	1065.9	1069.3	1083.0	1085.3
20°	1041.9	1044.2	1049.9	1065.9	1069.3
22.5°	1014.4	1020.1	1028.1	1046.4	1049.9
25°	989.3	993.8	1005.3	1024.7	1030.4
27.5°	958.4	965.2	980.1	1000.7	1008.7
30°	927.5	934.4	952.7	976.7	983.5
32.5°	894.3	904.6	924.1	949.2	957.2
35°	860.0	869.2	892.0	921.8	930.9
37.5°	822.3	834.9	860.0	892.0	903.5
40°	785.7	799.4	828.0	862.3	876.0
42.5°	749.1	762.8	794.8	833.7	847.4
45°	707.9	722.8	759.4	800.6	815.4
47.5°	666.7	685.0	725.1	768.5	784.5
50°	624.4	645.0	688.5	734.2	752.5
52.5°	586.7	606.1	651.9	701.1	718.2
55°	543.2	565.0	615.3	665.6	685.0
57.5°	498.6	522.6	576.4	631.3	650.7
60°	455.2	481.5	540.9	595.8	617.6
62.5°	412.9	439.2	500.9	558.1	579.8
65°	367.1	398.0	462.0	520.4	540.9
67.5°	323.7	356.8	424.3	481.5	502.1
70°	281.3	313.4	385.4	441.4	462.0
72.5°	235.6	272.2	344.2	402.6	424.3
75°	189.8	233.3	304.2	361.4	382.0
77.5°	147.5	192.1	263.0	309.9	320.2
80°	108.6	154.4	216.2	249.3	261.9
82.5°	69.8	115.5	164.7	188.7	199.0
85°	38.9	76.6	107.5	121.2	125.8
87.5°	16.0	33.2	43.5	49.2	49.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)