

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P590243

Luminaire Tested: FSR-24-2-LD4-2LO-35-UNV-81-96-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590243  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-2LO-35-UNV-81-96-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

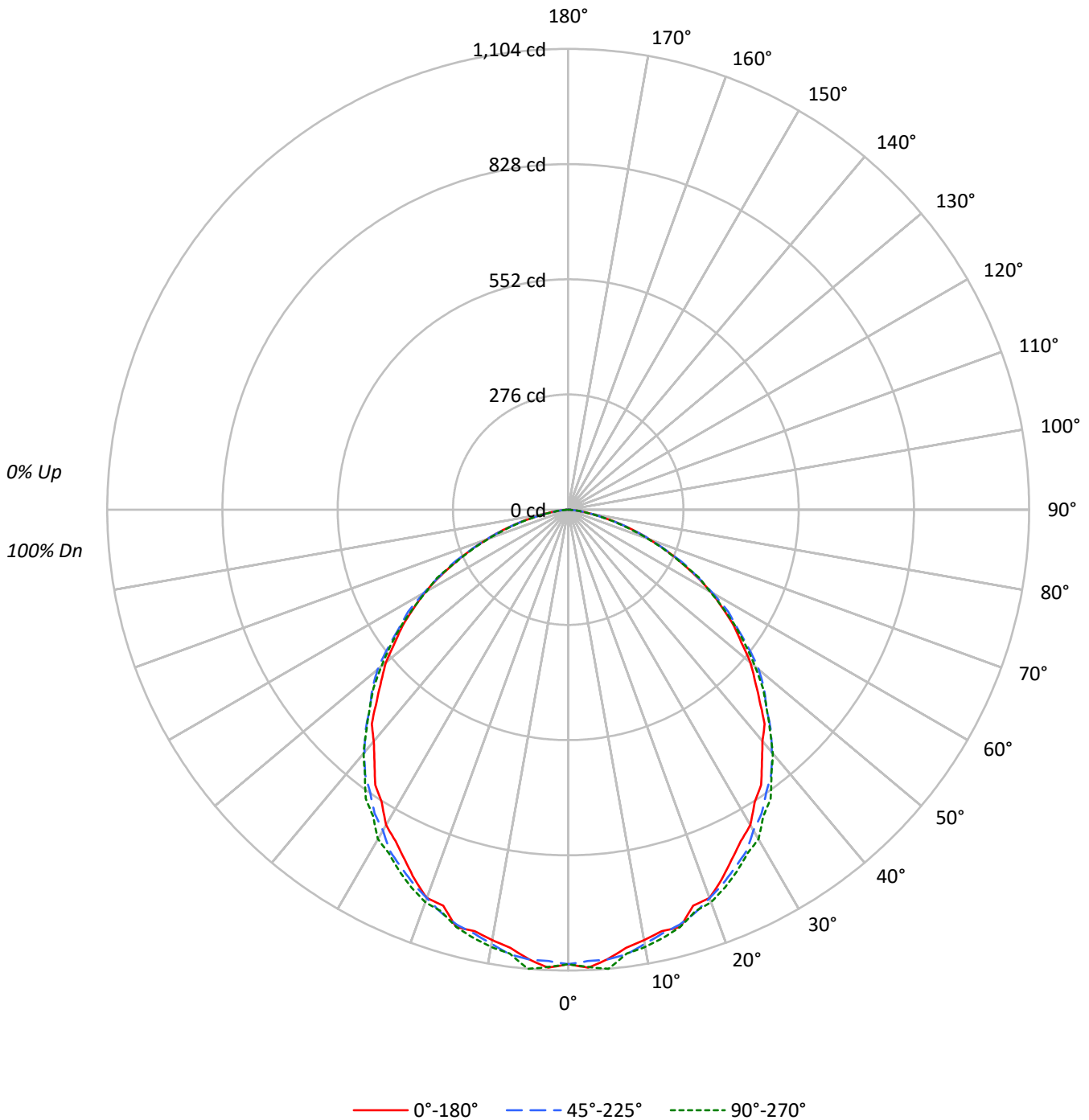
Lumens per Lamp: N/A  
Luminaire Lumens: 2744.0 lumens  
Efficiency: N/A  
Efficacy: 117.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
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: 24 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	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2930	2930	2930
5°	2920	2921	2983
10°	2861	2886	2906
15°	2884	2868	2884
20°	2835	2835	2865
25°	2748	2808	2839
30°	2710	2757	2831
35°	2646	2715	2776
40°	2543	2666	2677
45°	2466	2554	2558
50°	2385	2493	2445
55°	2273	2317	2300
60°	2125	2146	2108
65°	1895	1943	1882
70°	1626	1631	1586
75°	1287	1285	1235
80°	863	838	806
85°	469	463	435

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2620 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.4	3.7
10°-20°	290.3	10.6
20°-30°	434.9	15.8
30°-40°	515.4	18.8
40°-50°	516.3	18.8
50°-60°	438.3	16.0
60°-70°	295.5	10.8
70°-80°	129.8	4.7
80°-90°	21.1	0.8
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°	827.5	30.2
0°-40°	1342.9	48.9
0°-60°	2297.6	83.7
0°-90°	2744.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2744.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1089	1089	1089	1089	1089	
5°	1081	1078	1081	1078	1104	102
15°	1035	1023	1029	1035	1035	288
25°	925	930	946	958	956	428
35°	806	808	827	846	845	500
45°	648	660	671	688	672	501
55°	484	481	494	490	490	431
65°	298	294	305	294	296	296
75°	124	121	124	115	119	133
85°	15	15	15	15	14	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1088.7	1088.7	1088.7	1088.7	1088.7
2.5°	1098.2	1089.9	1082.1	1091.1	1096.6
5°	1081.0	1078.5	1081.4	1078.2	1104.2
7.5°	1058.8	1068.5	1074.1	1070.6	1072.2
10°	1047.0	1043.6	1056.1	1064.9	1063.6
12.5°	1034.3	1039.4	1040.1	1049.5	1050.4
15°	1035.1	1023.1	1029.4	1034.8	1035.2
17.5°	994.8	1007.8	1012.1	1024.4	1009.2
20°	989.9	980.5	989.9	1002.4	1000.5
22.5°	959.7	949.2	969.4	980.5	979.8
25°	925.4	930.5	945.6	958.0	956.0
27.5°	895.3	901.2	922.9	939.9	928.9
30°	872.1	869.2	887.4	902.6	911.1
32.5°	830.7	841.3	862.7	877.7	869.7
35°	805.5	807.9	826.6	845.7	845.1
37.5°	761.5	772.6	798.9	804.2	799.3
40°	724.0	735.1	758.8	764.6	762.2
42.5°	696.3	698.2	718.6	725.2	714.7
45°	648.0	660.1	671.1	688.4	672.1
47.5°	607.0	612.6	636.2	640.9	632.3
50°	569.7	571.7	595.5	589.7	584.1
52.5°	522.9	531.2	544.6	543.5	536.9
55°	484.4	481.2	493.8	490.5	490.3
57.5°	438.2	443.8	454.2	448.9	440.3
60°	394.9	395.0	398.8	392.8	391.6
62.5°	346.7	348.3	349.2	341.7	353.8
65°	297.6	293.7	305.2	293.5	295.5
67.5°	252.5	254.4	253.3	246.0	248.8
70°	206.6	209.2	207.3	199.1	201.6
72.5°	164.8	161.7	163.6	153.2	158.0
75°	123.8	121.3	123.6	114.8	118.8
77.5°	84.3	86.3	84.9	80.3	82.9
80°	55.7	54.1	54.1	51.5	52.0
82.5°	32.5	30.9	30.5	29.7	30.9
85°	15.2	14.8	15.0	14.6	14.1
87.5°	5.5	5.6	5.6	5.3	5.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)