

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: P558540

Luminaire Tested: FSR-12-1-LD4-1HI-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P558540  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-12-1-LD4-1HI-40-UNV-81-96-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

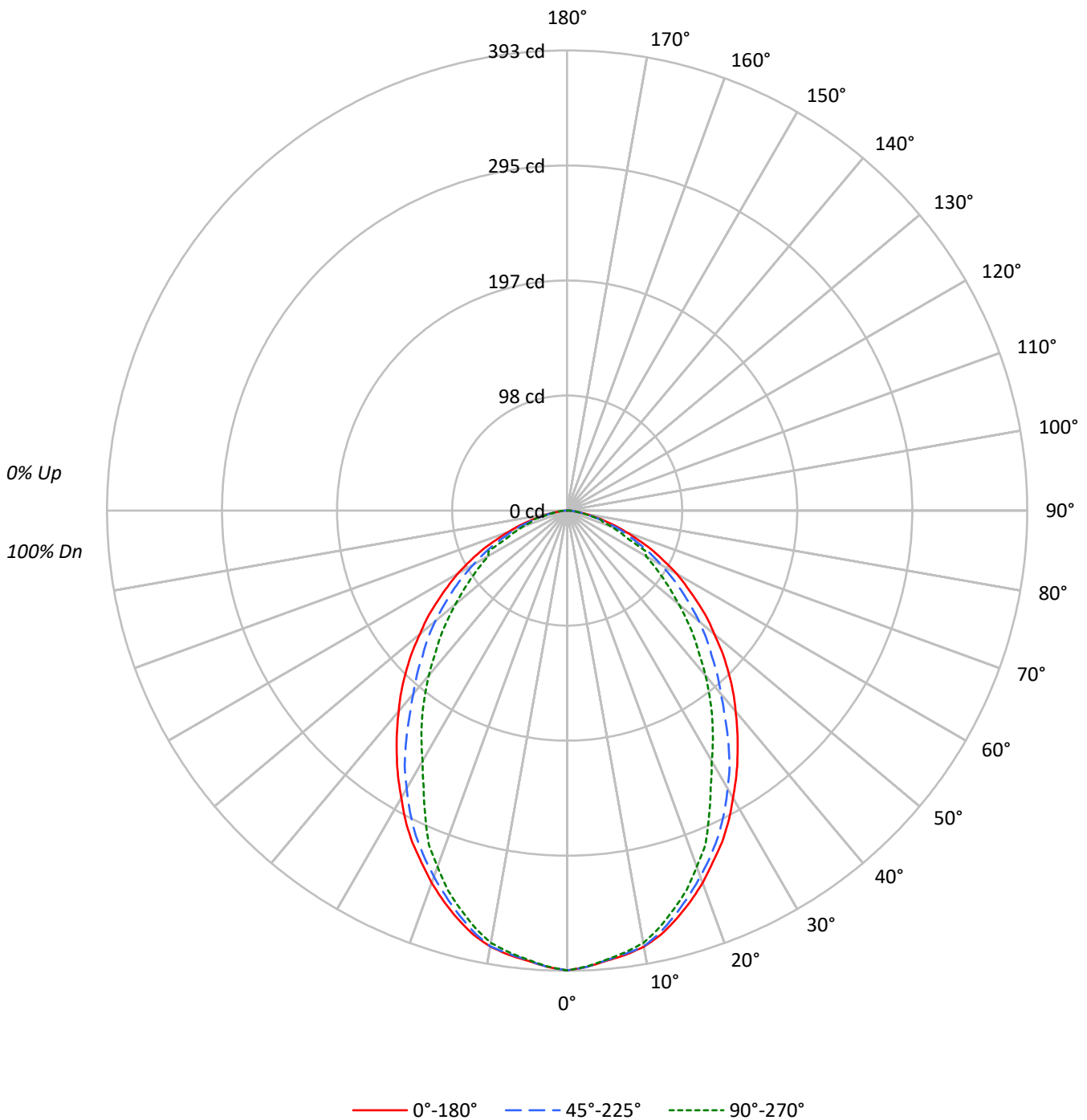
Lumens per Lamp: N/A  
Luminaire Lumens: 771.0 lumens  
Efficiency: N/A  
Efficacy: 71.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 10.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P558540

CATALOG NUMBER: FSR-12-1-LD4-1HI-40-UNV-81-96-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P558540

CATALOG NUMBER: FSR-12-1-LD4-1HI-40-UNV-81-96-EDD-90

**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	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											100																	
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87											87																	
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75											75																	
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65											65																	
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56											56																	
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50											50																	
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44											44																	
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40											40																	
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36											36																	
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33											33																	
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30											30																	

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

	0°	45°	90°
0°	4227	4227	4227
5°	4170	4165	4160
10°	4134	4129	4099
15°	4023	3982	3926
20°	3875	3812	3708
25°	3715	3634	3407
30°	3521	3408	3070
35°	3335	3150	2840
40°	3145	2871	2584
45°	2965	2653	2337
50°	2745	2463	2083
55°	2539	2233	1865
60°	2327	1993	1671
65°	2048	1747	1480
70°	1687	1530	1259
75°	1339	1169	1227
80°	899	843	787
85°	556	667	790

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2965 cd/sqm



TEST NUMBER: P558540

CATALOG NUMBER: FSR-12-1-LD4-1HI-40-UNV-81-96-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.6	4.7
10°-20°	100.3	13.0
20°-30°	138.9	18.0
30°-40°	148.1	19.2
40°-50°	135.1	17.5
50°-60°	105.9	13.7
60°-70°	69.0	8.9
70°-80°	30.6	4.0
80°-90°	6.6	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°	275.8	35.8
0°-40°	423.9	55.0
0°-60°	664.9	86.2
0°-90°	771.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	771.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	393	393	393	393	393	
5°	386	386	386	385	385	37
15°	361	361	357	354	352	101
25°	313	311	306	295	287	144
35°	254	252	240	222	216	159
45°	195	191	174	160	154	150
55°	135	131	119	105	99	121
65°	80	76	69	70	58	79
75°	32	30	28	27	30	35
85°	4	5	5	6	6	6
90°	0	0	0	0	0	



TEST NUMBER: P558540

CATALOG NUMBER: FSR-12-1-LD4-1HI-40-UNV-81-96-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	392.7	392.7	392.7	392.7	392.7
2.5°	390.0	390.0	390.0	389.6	389.6
5°	385.9	385.5	385.5	385.0	385.0
7.5°	382.7	382.3	381.8	381.4	380.5
10°	378.2	378.2	377.8	375.5	375.0
12.5°	370.9	370.5	368.7	365.5	364.6
15°	361.0	361.0	357.3	353.7	352.3
17.5°	350.1	349.6	345.1	341.4	339.6
20°	338.3	337.3	332.8	326.9	323.7
22.5°	325.1	325.1	319.6	311.9	308.7
25°	312.8	311.0	306.0	295.1	286.9
27.5°	298.8	296.0	290.6	275.1	265.6
30°	283.3	282.0	274.2	254.3	247.0
32.5°	268.8	266.5	258.3	237.5	231.6
35°	253.8	252.0	239.7	221.6	216.1
37.5°	238.8	236.6	221.1	206.6	199.8
40°	223.8	221.1	204.3	191.1	183.9
42.5°	209.8	206.1	189.8	175.7	167.5
45°	194.8	190.7	174.3	159.8	153.5
47.5°	179.8	176.2	161.2	146.2	138.9
50°	163.9	160.7	147.1	132.1	124.4
52.5°	150.7	145.7	132.6	117.6	111.2
55°	135.3	131.2	119.0	104.9	99.4
57.5°	121.2	117.1	105.8	92.6	88.1
60°	108.1	102.2	92.6	81.3	77.6
62.5°	93.5	89.0	80.8	71.3	75.8
65°	80.4	75.8	68.6	69.9	58.1
67.5°	65.8	63.6	57.2	50.9	49.0
70°	53.6	50.9	48.6	41.8	40.0
72.5°	42.7	40.0	36.8	33.1	31.8
75°	32.2	30.0	28.1	26.8	29.5
77.5°	22.2	21.3	20.0	18.6	18.2
80°	14.5	14.1	13.6	13.2	12.7
82.5°	8.6	8.6	8.6	8.6	8.6
85°	4.5	5.0	5.4	5.9	6.4
87.5°	2.7	2.7	3.2	3.6	4.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)