

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: P559534

Luminaire Tested: FSR-12-1-LD4-2STD-40-UNV-93-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559534  
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-LD4-2STD-40-UNV-93-97-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

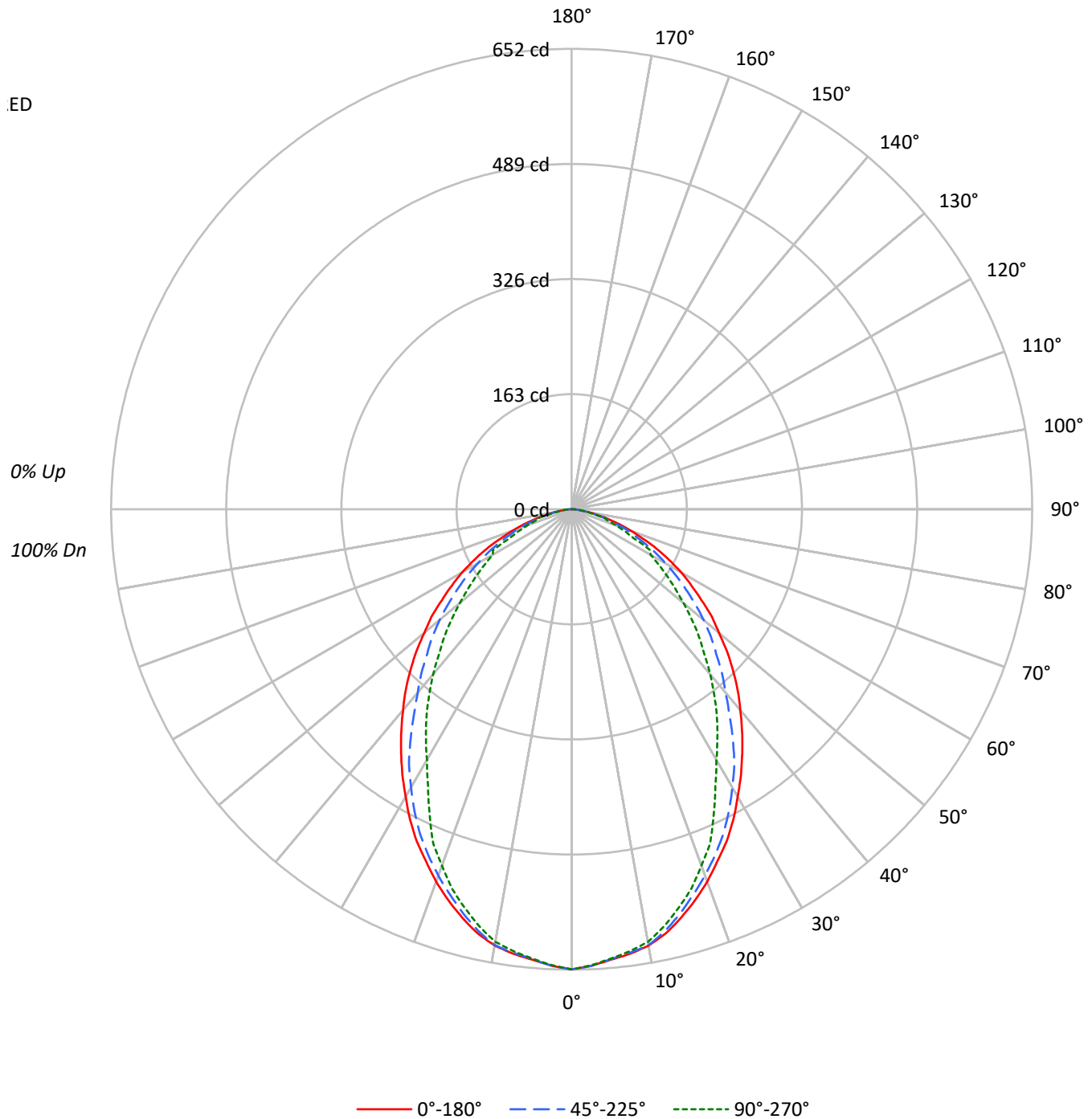
Lumens per Lamp: N/A  
Luminaire Lumens: 1279.0 lumens  
Efficiency: N/A  
Efficacy: 77.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P559534

CATALOG NUMBER: FSR-12-1-LD4-2STD-40-UNV-93-97-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P559534

CATALOG NUMBER: FSR-12-1-LD4-2STD-40-UNV-93-97-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°	7013	7013	7013
5°	6917	6910	6901
10°	6857	6850	6800
15°	6673	6606	6513
20°	6427	6324	6151
25°	6163	6029	5653
30°	5842	5654	5092
35°	5532	5226	4711
40°	5217	4762	4286
45°	4918	4402	3876
50°	4553	4086	3456
55°	4211	3703	3095
60°	3860	3307	2773
65°	3395	2896	2455
70°	2798	2537	2087
75°	2225	1942	2038
80°	1494	1401	1308
85°	926	1112	1297

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4918 cd/sqm

TEST NUMBER: P559534

CATALOG NUMBER: FSR-12-1-LD4-2STD-40-UNV-93-97-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	60.6	4.7
10°-20°	166.4	13.0
20°-30°	230.4	18.0
30°-40°	245.7	19.2
40°-50°	224.1	17.5
50°-60°	175.6	13.7
60°-70°	114.5	8.9
70°-80°	50.7	4.0
80°-90°	10.9	0.9
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°	457.5	35.8
0°-40°	703.2	55.0
0°-60°	1102.9	86.2
0°-90°	1279.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1279.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	652	652	652	652	652	
5°	640	640	640	639	639	61
15°	599	599	593	587	584	168
25°	519	516	508	490	476	238
35°	421	418	398	368	358	263
45°	323	316	289	265	255	249
55°	224	218	197	174	165	201
65°	133	126	114	116	96	131
75°	54	50	47	44	49	57
85°	8	8	9	10	10	10
90°	0	0	0	0	0	



TEST NUMBER: P559534

CATALOG NUMBER: FSR-12-1-LD4-2STD-40-UNV-93-97-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	651.5	651.5	651.5	651.5	651.5
2.5°	647.0	647.0	647.0	646.2	646.2
5°	640.2	639.5	639.5	638.7	638.7
7.5°	634.9	634.2	633.4	632.7	631.2
10°	627.4	627.4	626.7	622.9	622.1
12.5°	615.4	614.6	611.6	606.3	604.8
15°	598.8	598.8	592.8	586.7	584.5
17.5°	580.7	580.0	572.4	566.4	563.4
20°	561.1	559.6	552.1	542.3	537.0
22.5°	539.3	539.3	530.2	517.4	512.2
25°	518.9	515.9	507.6	489.6	476.0
27.5°	495.6	491.1	482.0	456.4	440.6
30°	470.0	467.7	454.9	421.8	409.7
32.5°	445.9	442.1	428.6	393.9	384.1
35°	421.0	418.0	397.7	367.6	358.5
37.5°	396.2	392.4	366.8	342.7	331.4
40°	371.3	366.8	338.9	317.1	305.0
42.5°	348.0	341.9	314.8	291.5	277.9
45°	323.1	316.3	289.2	265.1	254.6
47.5°	298.3	292.2	267.4	242.5	230.5
50°	271.9	266.6	244.0	219.2	206.4
52.5°	250.1	241.8	219.9	195.1	184.5
55°	224.4	217.7	197.3	174.0	164.9
57.5°	201.1	194.3	175.5	153.6	146.1
60°	179.3	169.5	153.6	134.8	128.8
62.5°	155.2	147.6	134.1	118.3	125.8
65°	133.3	125.8	113.7	116.0	96.4
67.5°	109.2	105.4	94.9	84.4	81.3
70°	88.9	84.4	80.6	69.3	66.3
72.5°	70.8	66.3	61.0	55.0	52.7
75°	53.5	49.7	46.7	44.4	49.0
77.5°	36.9	35.4	33.1	30.9	30.1
80°	24.1	23.3	22.6	21.8	21.1
82.5°	14.3	14.3	14.3	14.3	14.3
85°	7.5	8.3	9.0	9.8	10.5
87.5°	4.5	4.5	5.3	6.0	6.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)