

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: P559520

Luminaire Tested: FSR-12-1-LD4-2STD-40-UNV-93-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559520  
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-93-84-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

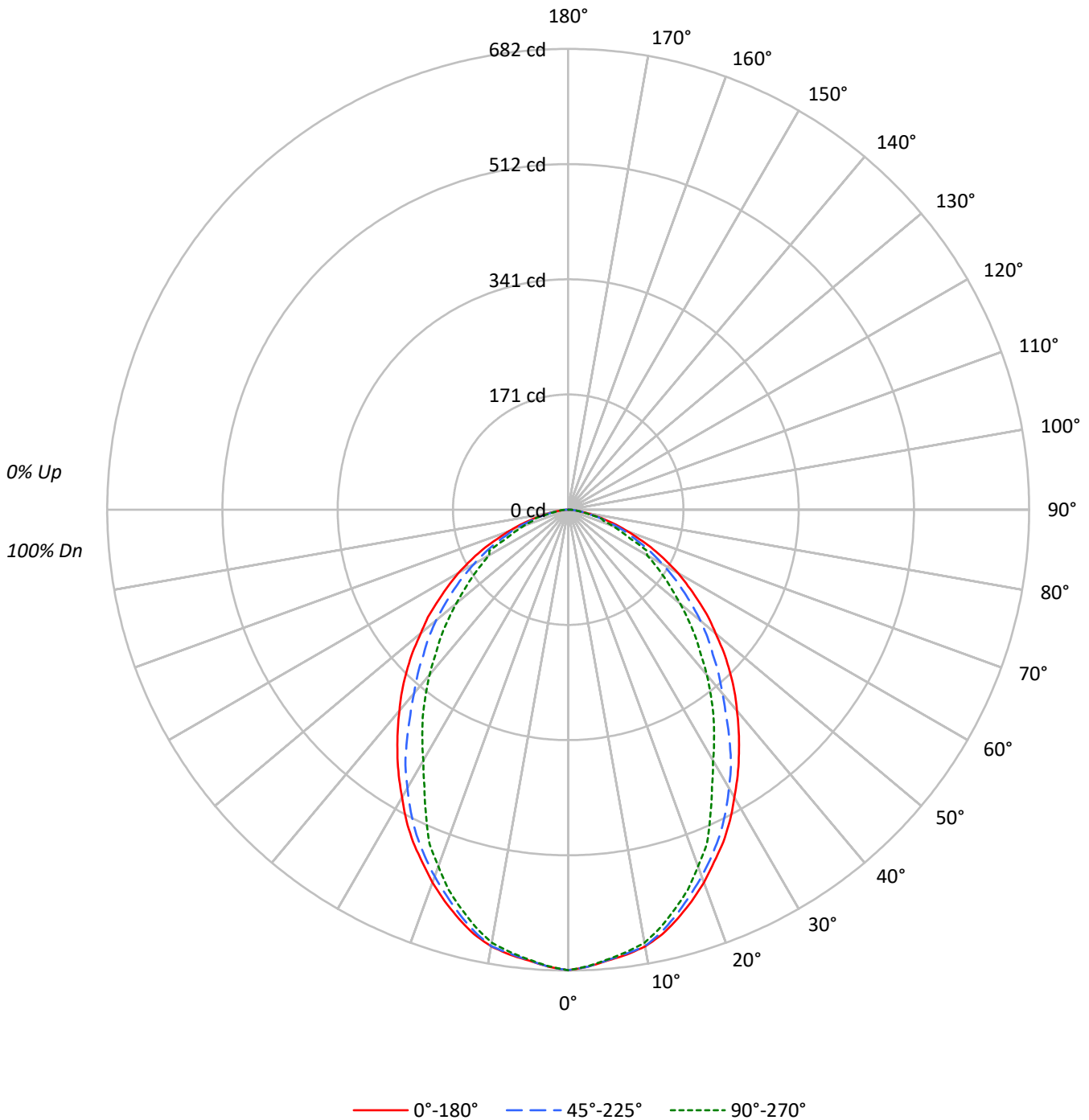
Lumens per Lamp: N/A  
Luminaire Lumens: 1338.0 lumens  
Efficiency: N/A  
Efficacy: 80.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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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	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°	7337	7337	7337
5°	7236	7229	7220
10°	7173	7166	7113
15°	6980	6910	6813
20°	6724	6616	6435
25°	6448	6308	5915
30°	6111	5915	5327
35°	5788	5466	4929
40°	5458	4983	4484
45°	5145	4606	4054
50°	4762	4275	3615
55°	4406	3873	3239
60°	4036	3460	2900
65°	3553	3031	2570
70°	2927	2653	2181
75°	2325	2034	2129
80°	1562	1463	1370
85°	976	1173	1359

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5145 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.4	4.7
10°-20°	174.1	13.0
20°-30°	241.1	18.0
30°-40°	257.0	19.2
40°-50°	234.5	17.5
50°-60°	183.7	13.7
60°-70°	119.7	8.9
70°-80°	53.0	4.0
80°-90°	11.4	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°	478.6	35.8
0°-40°	735.6	55.0
0°-60°	1153.8	86.2
0°-90°	1338.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1338.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	682	682	682	682	682	
5°	670	669	669	668	668	64
15°	626	626	620	614	611	176
25°	543	540	531	512	498	249
35°	440	437	416	384	375	275
45°	338	331	303	277	266	260
55°	235	228	206	182	173	211
65°	140	132	119	121	101	137
75°	56	52	49	46	51	60
85°	8	9	10	10	11	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	681.6	681.6	681.6	681.6	681.6
2.5°	676.8	676.8	676.8	676.0	676.0
5°	669.7	669.0	669.0	668.2	668.2
7.5°	664.2	663.4	662.6	661.9	660.3
10°	656.3	656.3	655.6	651.6	650.8
12.5°	643.7	643.0	639.8	634.3	632.7
15°	626.4	626.4	620.1	613.8	611.4
17.5°	607.5	606.7	598.8	592.5	589.4
20°	587.0	585.4	577.6	567.3	561.8
22.5°	564.2	564.2	554.7	541.3	535.8
25°	542.9	539.7	531.1	512.2	498.0
27.5°	518.5	513.7	504.3	477.5	460.9
30°	491.7	489.3	475.9	441.2	428.6
32.5°	466.5	462.5	448.3	412.1	401.8
35°	440.5	437.3	416.0	384.5	375.1
37.5°	414.5	410.5	383.7	358.5	346.7
40°	388.4	383.7	354.6	331.7	319.1
42.5°	364.0	357.7	329.4	304.9	290.7
45°	338.0	330.9	302.6	277.4	266.3
47.5°	312.0	305.7	279.7	253.7	241.1
50°	284.4	278.9	255.3	229.3	215.9
52.5°	261.6	252.9	230.1	204.1	193.0
55°	234.8	227.7	206.4	182.0	172.6
57.5°	210.4	203.3	183.6	160.7	152.9
60°	187.5	177.3	160.7	141.0	134.7
62.5°	162.3	154.4	140.3	123.7	131.6
65°	139.5	131.6	119.0	121.3	100.9
67.5°	114.2	110.3	99.3	88.2	85.1
70°	93.0	88.2	84.3	72.5	69.3
72.5°	74.1	69.3	63.8	57.5	55.2
75°	55.9	52.0	48.9	46.5	51.2
77.5°	38.6	37.0	34.7	32.3	31.5
80°	25.2	24.4	23.6	22.8	22.1
82.5°	15.0	15.0	15.0	15.0	15.0
85°	7.9	8.7	9.5	10.2	11.0
87.5°	4.7	4.7	5.5	6.3	7.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)