

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: P559204

Luminaire Tested: FSR-12-1-LD4-2HI-50-UNV-93-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559204  
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-LD4-2HI-50-UNV-93-86-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

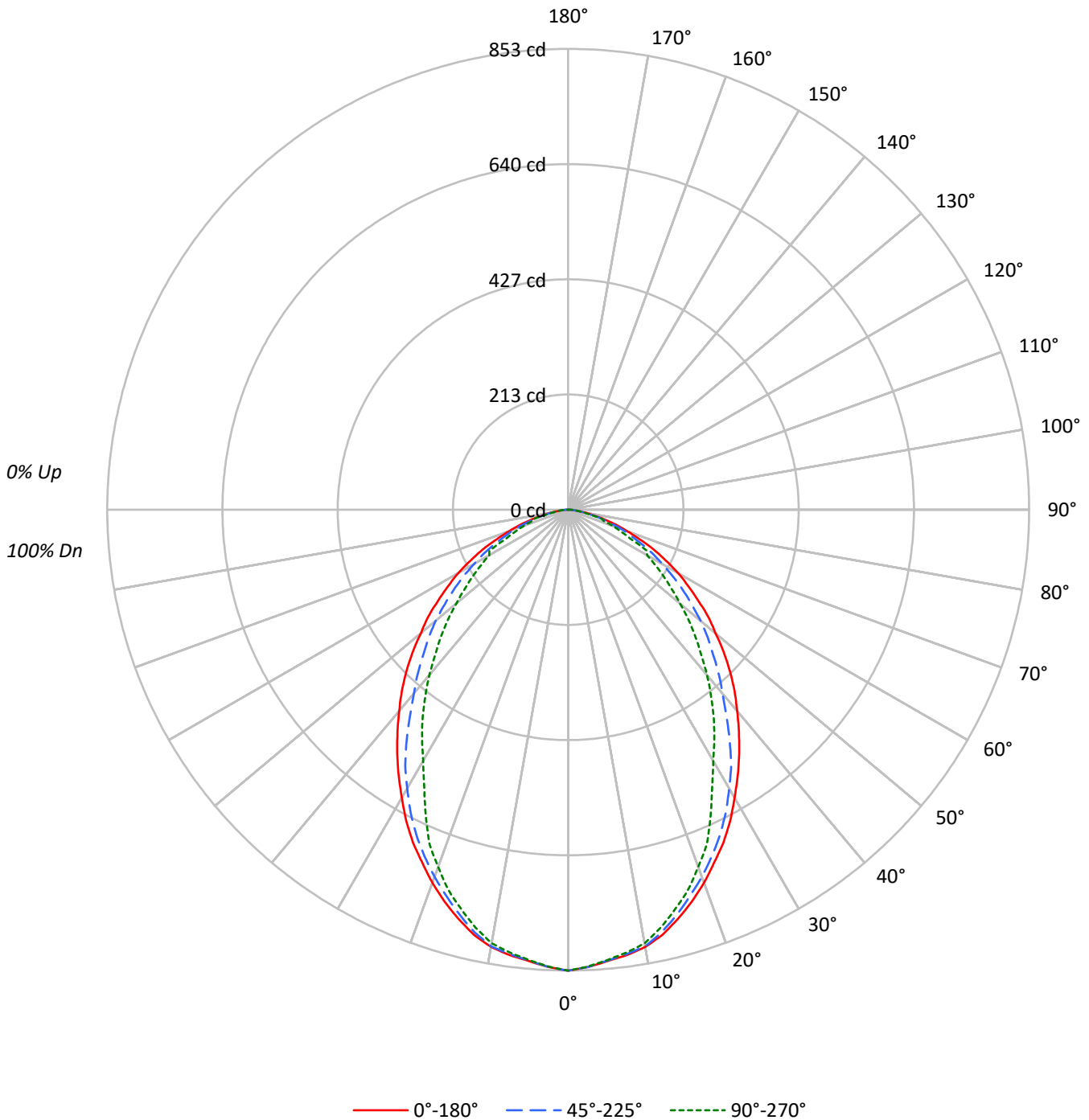
Lumens per Lamp: N/A  
Luminaire Lumens: 1675.0 lumens  
Efficiency: N/A  
Efficacy: 77.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	9184	9184	9184
5°	9059	9048	9038
10°	8981	8970	8906
15°	8739	8651	8529
20°	8418	8282	8056
25°	8071	7896	7404
30°	7650	7405	6669
35°	7246	6843	6169
40°	6833	6237	5613
45°	6442	5766	5075
50°	5963	5352	4526
55°	5515	4849	4054
60°	5055	4331	3632
65°	4447	3792	3217
70°	3663	3320	2732
75°	2911	2545	2666
80°	1959	1835	1711
85°	1223	1457	1704

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6442 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.4	4.7
10°-20°	218.0	13.0
20°-30°	301.8	18.0
30°-40°	321.8	19.2
40°-50°	293.6	17.5
50°-60°	230.0	13.7
60°-70°	149.9	8.9
70°-80°	66.4	4.0
80°-90°	14.2	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°	599.2	35.8
0°-40°	920.9	55.0
0°-60°	1444.5	86.2
0°-90°	1675.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1675.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	853	853	853	853	853	
5°	838	837	837	836	836	80
15°	784	784	776	768	765	220
25°	680	676	665	641	623	312
35°	551	547	521	481	470	345
45°	423	414	379	347	333	326
55°	294	285	258	228	216	264
65°	175	165	149	152	126	172
75°	70	65	61	58	64	75
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	853.2	853.2	853.2	853.2	853.2
2.5°	847.3	847.3	847.3	846.3	846.3
5°	838.4	837.4	837.4	836.5	836.5
7.5°	831.5	830.5	829.5	828.6	826.6
10°	821.7	821.7	820.7	815.7	814.8
12.5°	805.9	804.9	800.9	794.0	792.1
15°	784.2	784.2	776.3	768.4	765.4
17.5°	760.5	759.5	749.7	741.8	737.8
20°	734.9	732.9	723.0	710.2	703.3
22.5°	706.3	706.3	694.4	677.6	670.7
25°	679.6	675.7	664.8	641.1	623.4
27.5°	649.0	643.1	631.3	597.7	577.0
30°	615.5	612.5	595.8	552.4	536.6
32.5°	583.9	579.0	561.3	515.9	503.1
35°	551.4	547.4	520.8	481.4	469.5
37.5°	518.8	513.9	480.4	448.8	434.0
40°	486.3	480.4	443.9	415.3	399.5
42.5°	455.7	447.8	412.3	381.7	364.0
45°	423.2	414.3	378.8	347.2	333.4
47.5°	390.6	382.7	350.2	317.6	301.8
50°	356.1	349.2	319.6	287.0	270.3
52.5°	327.5	316.6	288.0	255.5	241.7
55°	293.9	285.1	258.4	227.9	216.0
57.5°	263.4	254.5	229.8	201.2	191.4
60°	234.8	221.9	201.2	176.6	168.7
62.5°	203.2	193.3	175.6	154.9	164.7
65°	174.6	164.7	148.9	151.9	126.3
67.5°	143.0	138.1	124.3	110.5	106.5
70°	116.4	110.5	105.5	90.7	86.8
72.5°	92.7	86.8	79.9	72.0	69.0
75°	70.0	65.1	61.2	58.2	64.1
77.5°	48.3	46.4	43.4	40.4	39.5
80°	31.6	30.6	29.6	28.6	27.6
82.5°	18.7	18.7	18.7	18.7	18.7
85°	9.9	10.9	11.8	12.8	13.8
87.5°	5.9	5.9	6.9	7.9	8.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)