

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: P559209

Luminaire Tested: FSR-12-1-LD4-2HI-50-UNV-93-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559209  
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-93-88-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

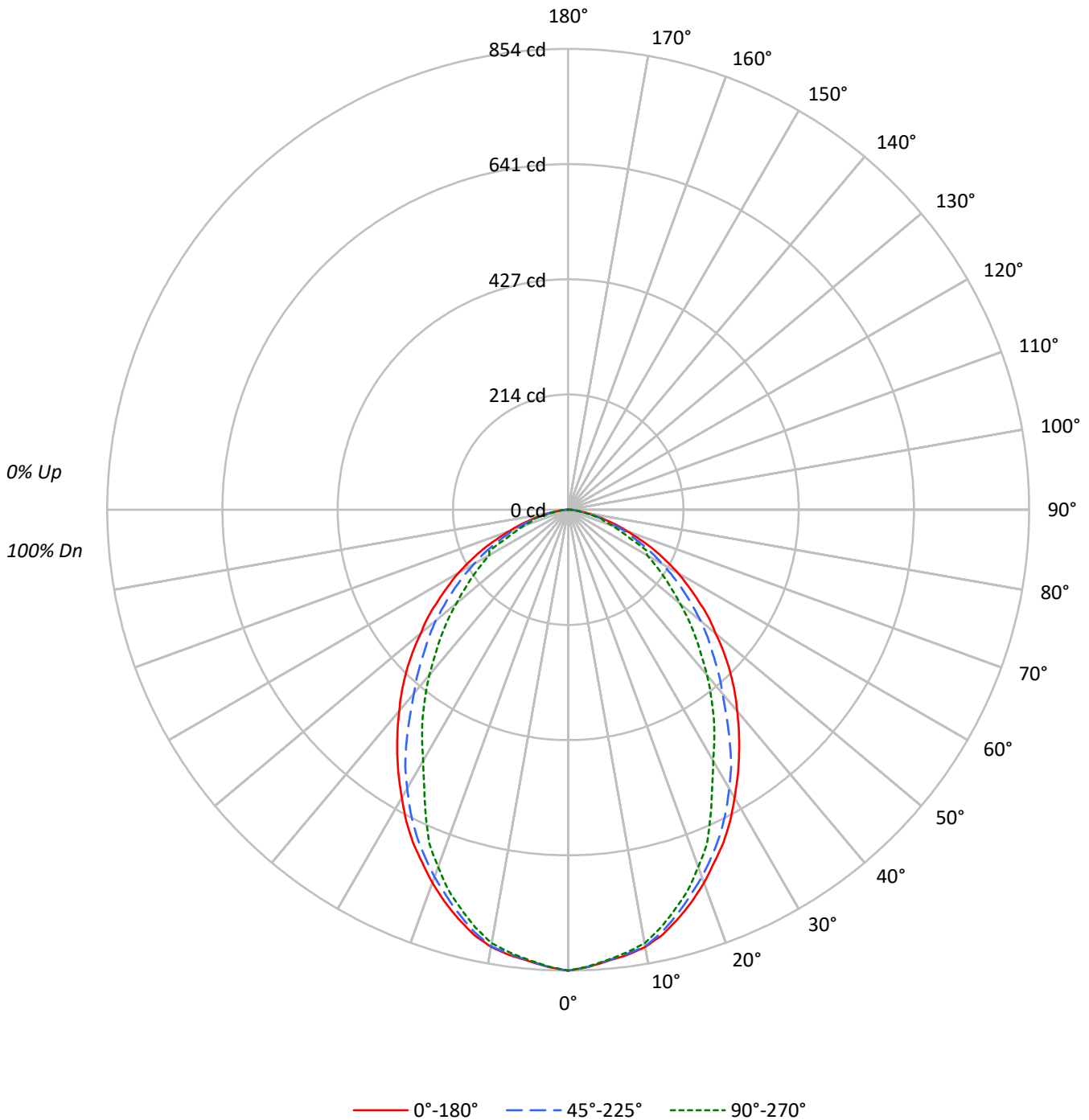
Lumens per Lamp: N/A  
Luminaire Lumens: 1677.0 lumens  
Efficiency: N/A  
Efficacy: 77.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	9195	9195	9195
5°	9070	9059	9049
10°	8991	8981	8916
15°	8749	8661	8539
20°	8427	8292	8065
25°	8081	7905	7412
30°	7659	7414	6677
35°	7253	6851	6177
40°	6842	6244	5621
45°	6450	5772	5081
50°	5970	5359	4531
55°	5523	4855	4059
60°	5059	4338	3636
65°	4452	3798	3219
70°	3666	3327	2735
75°	2915	2545	2670
80°	1959	1835	1717
85°	1223	1470	1704

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6450 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.5	4.7
10°-20°	218.2	13.0
20°-30°	302.1	18.0
30°-40°	322.1	19.2
40°-50°	293.9	17.5
50°-60°	230.3	13.7
60°-70°	150.1	8.9
70°-80°	66.5	4.0
80°-90°	14.3	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°	599.9	35.8
0°-40°	922.0	55.0
0°-60°	1446.2	86.2
0°-90°	1677.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1677.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	854	854	854	854	854	
5°	839	838	838	838	838	80
15°	785	785	777	769	766	221
25°	680	676	666	642	624	312
35°	552	548	521	482	470	345
45°	424	415	379	348	334	326
55°	294	285	259	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°	854.2	854.2	854.2	854.2	854.2
2.5°	848.3	848.3	848.3	847.3	847.3
5°	839.4	838.4	838.4	837.5	837.5
7.5°	832.5	831.5	830.5	829.6	827.6
10°	822.6	822.6	821.7	816.7	815.7
12.5°	806.8	805.9	801.9	795.0	793.0
15°	785.1	785.1	777.2	769.3	766.3
17.5°	761.4	760.4	750.5	742.6	738.7
20°	735.7	733.8	723.9	711.0	704.1
22.5°	707.1	707.1	695.2	678.5	671.5
25°	680.4	676.5	665.6	641.9	624.1
27.5°	649.8	643.9	632.0	598.5	577.7
30°	616.2	613.3	596.5	553.0	537.2
32.5°	584.6	579.7	561.9	516.5	503.7
35°	552.0	548.1	521.4	481.9	470.1
37.5°	519.5	514.5	480.9	449.3	434.5
40°	486.9	480.9	444.4	415.8	400.0
42.5°	456.3	448.4	412.8	382.2	364.4
45°	423.7	414.8	379.2	347.6	333.8
47.5°	391.1	383.2	350.6	318.0	302.2
50°	356.5	349.6	320.0	287.4	270.6
52.5°	327.9	317.0	288.4	255.8	242.0
55°	294.3	285.4	258.7	228.1	216.3
57.5°	263.7	254.8	230.1	201.5	191.6
60°	235.0	222.2	201.5	176.8	168.9
62.5°	203.4	193.6	175.8	155.0	164.9
65°	174.8	164.9	149.1	152.1	126.4
67.5°	143.2	138.3	124.4	110.6	106.7
70°	116.5	110.6	105.7	90.9	86.9
72.5°	92.8	86.9	80.0	72.1	69.1
75°	70.1	65.2	61.2	58.3	64.2
77.5°	48.4	46.4	43.5	40.5	39.5
80°	31.6	30.6	29.6	28.6	27.7
82.5°	18.8	18.8	18.8	18.8	18.8
85°	9.9	10.9	11.9	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)