

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: P559448

Luminaire Tested: FSR-12-1-LD4-2STD-35-UNV-82-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559448  
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-35-UNV-82-88-EDD-90  
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

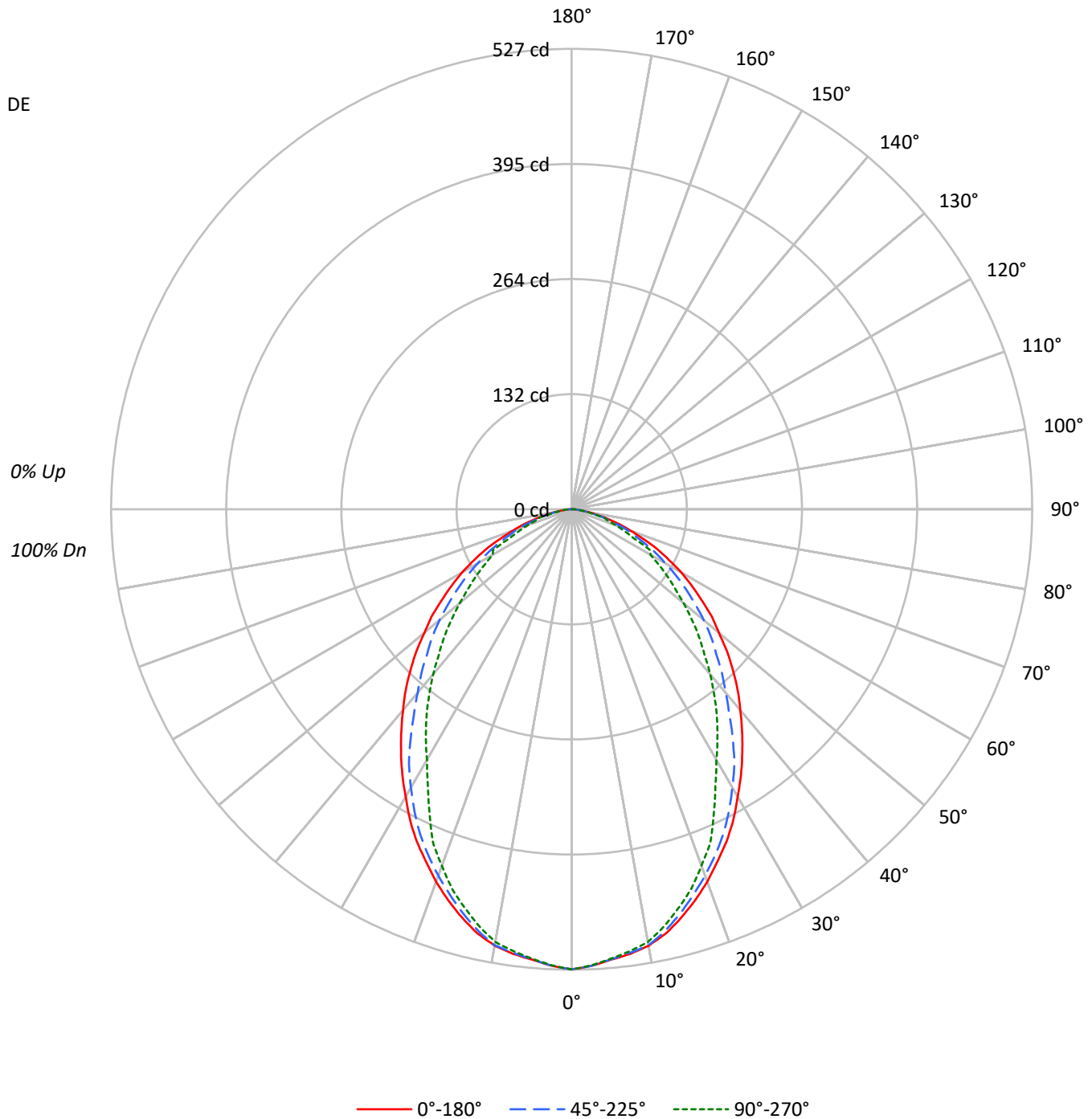
Lumens per Lamp: N/A  
Luminaire Lumens: 1034.0 lumens  
Efficiency: N/A  
Efficacy: 62.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5669	5669	5669
5°	5593	5586	5580
10°	5544	5537	5498
15°	5395	5340	5265
20°	5196	5112	4974
25°	4982	4874	4570
30°	4723	4571	4117
35°	4473	4225	3808
40°	4218	3850	3465
45°	3976	3559	3133
50°	3681	3304	2793
55°	3406	2993	2503
60°	3119	2674	2241
65°	2746	2341	1984
70°	2263	2052	1687
75°	1797	1572	1647
80°	1209	1134	1054
85°	753	902	1050

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3976 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.0	4.7
10°-20°	134.6	13.0
20°-30°	186.3	18.0
30°-40°	198.6	19.2
40°-50°	181.2	17.5
50°-60°	142.0	13.7
60°-70°	92.5	8.9
70°-80°	41.0	4.0
80°-90°	8.8	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°	369.9	35.8
0°-40°	568.5	55.0
0°-60°	891.7	86.2
0°-90°	1034.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1034.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	527	527	527	527	527	
5°	518	517	517	516	516	49
15°	484	484	479	474	472	136
25°	420	417	410	396	385	193
35°	340	338	322	297	290	213
45°	261	256	234	214	206	201
55°	182	176	160	141	133	163
65°	108	102	92	94	78	106
75°	43	40	38	36	40	46
85°	6	7	7	8	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	526.7	526.7	526.7	526.7	526.7
2.5°	523.1	523.1	523.1	522.4	522.4
5°	517.6	517.0	517.0	516.4	516.4
7.5°	513.3	512.7	512.1	511.5	510.3
10°	507.2	507.2	506.6	503.6	503.0
12.5°	497.5	496.9	494.4	490.2	489.0
15°	484.1	484.1	479.2	474.3	472.5
17.5°	469.5	468.9	462.8	457.9	455.5
20°	453.6	452.4	446.3	438.4	434.2
22.5°	436.0	436.0	428.7	418.3	414.1
25°	419.5	417.1	410.4	395.8	384.8
27.5°	400.7	397.0	389.7	369.0	356.2
30°	380.0	378.1	367.8	341.0	331.2
32.5°	360.5	357.4	346.5	318.5	310.5
35°	340.4	337.9	321.5	297.1	289.8
37.5°	320.3	317.2	296.5	277.1	267.9
40°	300.2	296.5	274.0	256.4	246.6
42.5°	281.3	276.4	254.5	235.6	224.7
45°	261.2	255.7	233.8	214.3	205.8
47.5°	241.1	236.3	216.2	196.1	186.3
50°	219.8	215.6	197.3	177.2	166.8
52.5°	202.2	195.5	177.8	157.7	149.2
55°	181.5	176.0	159.5	140.7	133.4
57.5°	162.6	157.1	141.9	124.2	118.1
60°	144.9	137.0	124.2	109.0	104.1
62.5°	125.4	119.3	108.4	95.6	101.7
65°	107.8	101.7	91.9	93.8	77.9
67.5°	88.3	85.2	76.7	68.2	65.8
70°	71.9	68.2	65.2	56.0	53.6
72.5°	57.2	53.6	49.3	44.5	42.6
75°	43.2	40.2	37.8	35.9	39.6
77.5°	29.8	28.6	26.8	25.0	24.4
80°	19.5	18.9	18.3	17.7	17.0
82.5°	11.6	11.6	11.6	11.6	11.6
85°	6.1	6.7	7.3	7.9	8.5
87.5°	3.7	3.7	4.3	4.9	5.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)