

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: P559236

Luminaire Tested: FSR-12-1-LD4-2LO-35-UNV-81-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559236  
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-LD4-2LO-35-UNV-81-86-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

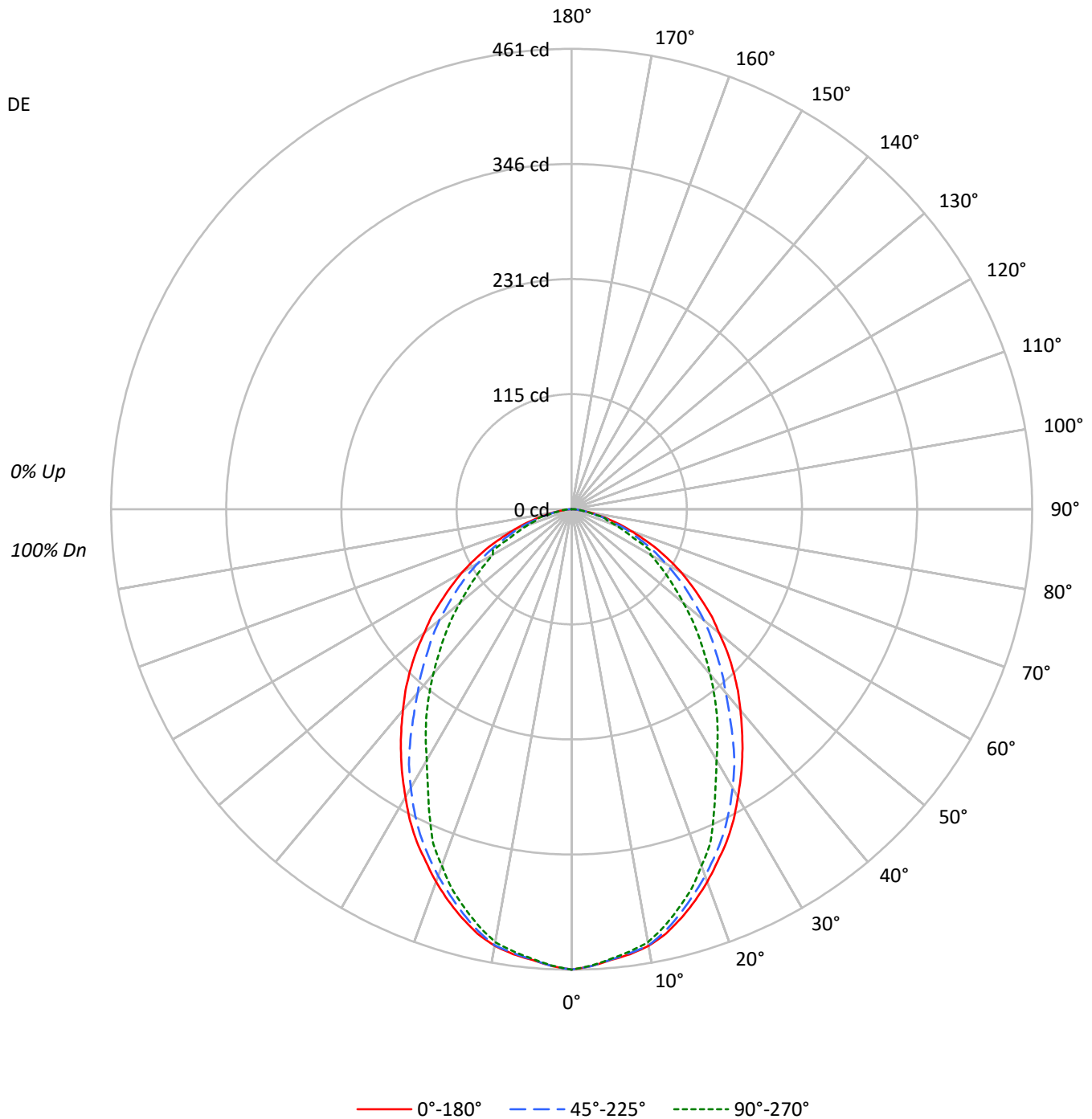
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 905.0 lumens  
Efficiency: N/A  
Efficacy: 77.3 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): 11.7  
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: P559236  
CATALOG NUMBER: FSR-12-1-LD4-2LO-35-UNV-81-86-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P559236

CATALOG NUMBER: FSR-12-1-LD4-2LO-35-UNV-81-86-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	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°	4962	4962	4962
5°	4895	4889	4883
10°	4852	4846	4811
15°	4722	4674	4609
20°	4548	4474	4353
25°	4361	4266	4000
30°	4134	4001	3603
35°	3914	3698	3334
40°	3691	3370	3032
45°	3480	3115	2742
50°	3222	2892	2445
55°	2980	2620	2190
60°	2730	2340	1961
65°	2402	2050	1737
70°	1980	1794	1476
75°	1572	1372	1439
80°	1060	992	924
85°	655	790	926

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3480 cd/sqm



TEST NUMBER: P559236

CATALOG NUMBER: FSR-12-1-LD4-2LO-35-UNV-81-86-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.9	4.7
10°-20°	117.8	13.0
20°-30°	163.0	18.0
30°-40°	173.8	19.2
40°-50°	158.6	17.5
50°-60°	124.2	13.7
60°-70°	81.0	8.9
70°-80°	35.9	4.0
80°-90°	7.7	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°	323.7	35.8
0°-40°	497.6	55.0
0°-60°	780.4	86.2
0°-90°	905.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	905.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	461	461	461	461	461	
5°	453	452	452	452	452	43
15°	424	424	419	415	414	119
25°	367	365	359	346	337	169
35°	298	296	281	260	254	186
45°	229	224	205	188	180	176
55°	159	154	140	123	117	142
65°	94	89	80	82	68	93
75°	38	35	33	31	35	41
85°	5	6	6	7	8	7
90°	0	0	0	0	0	



TEST NUMBER: P559236

CATALOG NUMBER: FSR-12-1-LD4-2LO-35-UNV-81-86-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	461.0	461.0	461.0	461.0	461.0
2.5°	457.8	457.8	457.8	457.3	457.3
5°	453.0	452.5	452.5	451.9	451.9
7.5°	449.3	448.7	448.2	447.7	446.6
10°	443.9	443.9	443.4	440.7	440.2
12.5°	435.4	434.9	432.7	429.0	428.0
15°	423.7	423.7	419.4	415.2	413.6
17.5°	410.9	410.4	405.0	400.8	398.6
20°	397.0	396.0	390.6	383.7	380.0
22.5°	381.6	381.6	375.2	366.1	362.4
25°	367.2	365.1	359.2	346.4	336.8
27.5°	350.7	347.5	341.1	323.0	311.8
30°	332.6	331.0	321.9	298.4	289.9
32.5°	315.5	312.8	303.2	278.7	271.8
35°	297.9	295.8	281.4	260.1	253.7
37.5°	280.3	277.7	259.5	242.5	234.5
40°	262.7	259.5	239.8	224.4	215.8
42.5°	246.2	242.0	222.8	206.2	196.7
45°	228.6	223.8	204.6	187.6	180.1
47.5°	211.0	206.8	189.2	171.6	163.1
50°	192.4	188.7	172.7	155.1	146.0
52.5°	176.9	171.1	155.6	138.0	130.6
55°	158.8	154.0	139.6	123.1	116.7
57.5°	142.3	137.5	124.2	108.7	103.4
60°	126.8	119.9	108.7	95.4	91.1
62.5°	109.8	104.5	94.9	83.7	89.0
65°	94.3	89.0	80.5	82.1	68.2
67.5°	77.3	74.6	67.2	59.7	57.6
70°	62.9	59.7	57.0	49.0	46.9
72.5°	50.1	46.9	43.2	38.9	37.3
75°	37.8	35.2	33.0	31.4	34.6
77.5°	26.1	25.0	23.4	21.9	21.3
80°	17.1	16.5	16.0	15.5	14.9
82.5°	10.1	10.1	10.1	10.1	10.1
85°	5.3	5.9	6.4	6.9	7.5
87.5°	3.2	3.2	3.7	4.3	4.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)