

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: P559640

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

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559640  
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-12-2-LD4-1HI-35-UNV-82-88-EDD-90  
Description: 1X2 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**

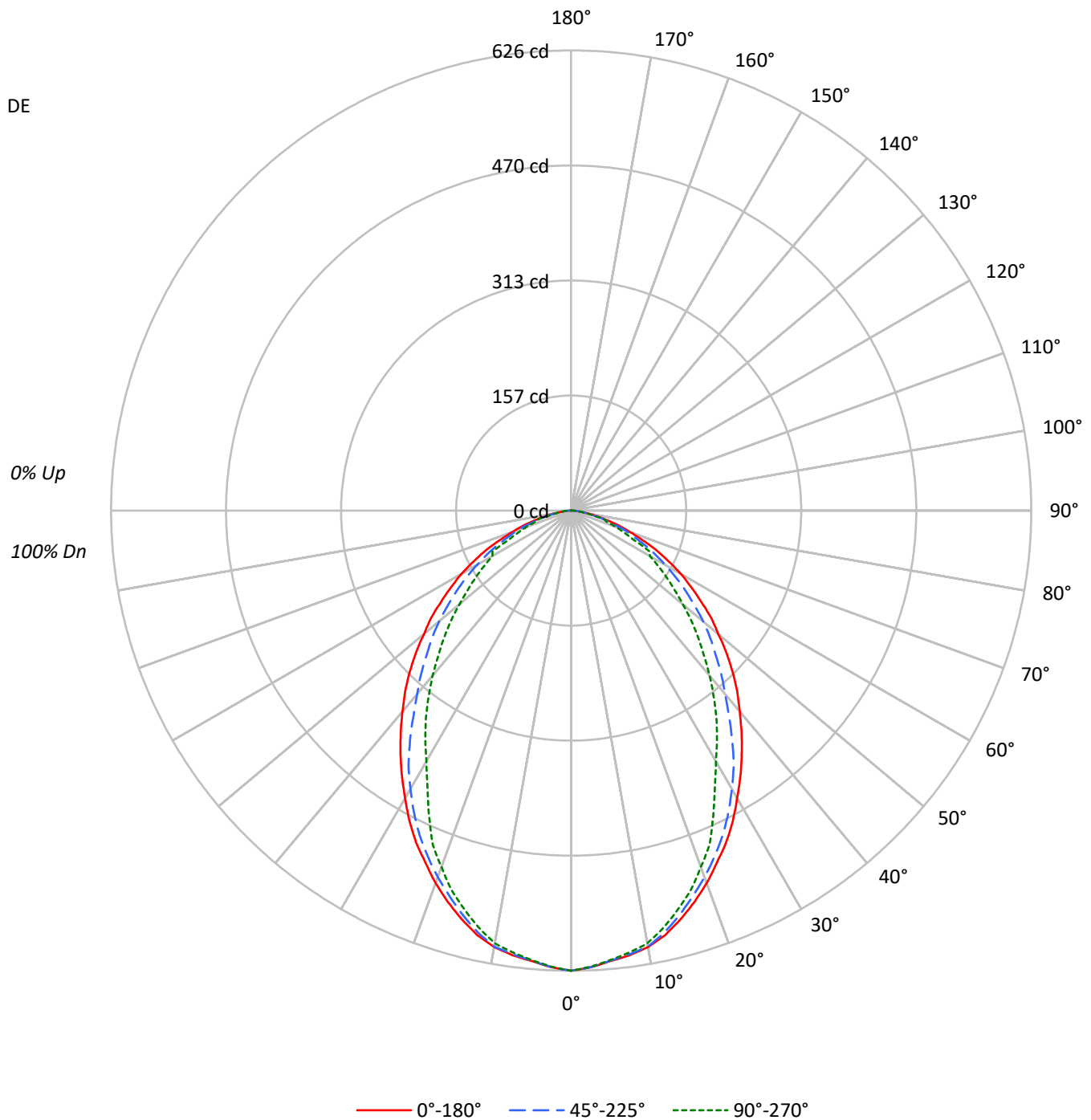
Lumens per Lamp: N/A  
Luminaire Lumens: 1229.0 lumens  
Efficiency: N/A  
Efficacy: 56.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P559640

CATALOG NUMBER: FSR-12-2-LD4-1HI-35-UNV-82-88-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P559640

CATALOG NUMBER: FSR-12-2-LD4-1HI-35-UNV-82-88-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	50	30	10	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3369	3369	3369
5°	3324	3320	3316
10°	3295	3291	3267
15°	3206	3174	3129
20°	3088	3038	2955
25°	2961	2897	2716
30°	2806	2716	2447
35°	2658	2510	2263
40°	2507	2288	2059
45°	2363	2115	1862
50°	2188	1963	1660
55°	2024	1779	1487
60°	1855	1589	1333
65°	1631	1392	1179
70°	1344	1218	1002
75°	1069	934	977
80°	719	673	629
85°	445	537	624

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2363 cd/sqm



TEST NUMBER: P559640

CATALOG NUMBER: FSR-12-2-LD4-1HI-35-UNV-82-88-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.3	4.7
10°-20°	159.9	13.0
20°-30°	221.4	18.0
30°-40°	236.1	19.2
40°-50°	215.4	17.5
50°-60°	168.7	13.7
60°-70°	110.0	8.9
70°-80°	48.7	4.0
80°-90°	10.5	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°	439.6	35.8
0°-40°	675.7	55.0
0°-60°	1059.8	86.2
0°-90°	1229.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1229.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	626	626	626	626	626	
5°	615	614	614	614	614	58
15°	575	575	570	564	562	162
25°	499	496	488	470	457	229
35°	405	402	382	353	344	253
45°	310	304	278	255	245	239
55°	216	209	190	167	158	193
65°	128	121	109	112	93	126
75°	51	48	45	43	47	55
85°	7	8	9	9	10	10
90°	0	0	0	0	0	



TEST NUMBER: P559640

CATALOG NUMBER: FSR-12-2-LD4-1HI-35-UNV-82-88-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	626.0	626.0	626.0	626.0	626.0
2.5°	621.7	621.7	621.7	621.0	621.0
5°	615.2	614.5	614.5	613.7	613.7
7.5°	610.1	609.4	608.7	607.9	606.5
10°	602.9	602.9	602.2	598.5	597.8
12.5°	591.3	590.6	587.7	582.6	581.2
15°	575.4	575.4	569.6	563.8	561.6
17.5°	558.0	557.3	550.0	544.3	541.4
20°	539.2	537.7	530.5	521.1	516.0
22.5°	518.2	518.2	509.5	497.2	492.1
25°	498.7	495.8	487.8	470.4	457.4
27.5°	476.2	471.9	463.2	438.6	423.4
30°	451.6	449.4	437.1	405.3	393.7
32.5°	428.5	424.8	411.8	378.5	369.1
35°	404.6	401.7	382.1	353.2	344.5
37.5°	380.7	377.1	352.5	329.3	318.4
40°	356.8	352.5	325.7	304.7	293.1
42.5°	334.4	328.6	302.5	280.1	267.1
45°	310.5	304.0	277.9	254.8	244.6
47.5°	286.6	280.8	256.9	233.0	221.5
50°	261.3	256.2	234.5	210.6	198.3
52.5°	240.3	232.3	211.3	187.4	177.3
55°	215.7	209.2	189.6	167.2	158.5
57.5°	193.2	186.7	168.6	147.6	140.4
60°	172.3	162.8	147.6	129.5	123.8
62.5°	149.1	141.9	128.8	113.6	120.9
65°	128.1	120.9	109.3	111.5	92.6
67.5°	104.9	101.3	91.2	81.1	78.2
70°	85.4	81.1	77.4	66.6	63.7
72.5°	68.0	63.7	58.6	52.8	50.7
75°	51.4	47.8	44.9	42.7	47.0
77.5°	35.5	34.0	31.8	29.7	28.9
80°	23.2	22.4	21.7	21.0	20.3
82.5°	13.8	13.8	13.8	13.8	13.8
85°	7.2	8.0	8.7	9.4	10.1
87.5°	4.3	4.3	5.1	5.8	6.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)