

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: P559052

Luminaire Tested: FSR-12-1-LD4-2HI-35-UNV-81-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559052  
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-35-UNV-81-96-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

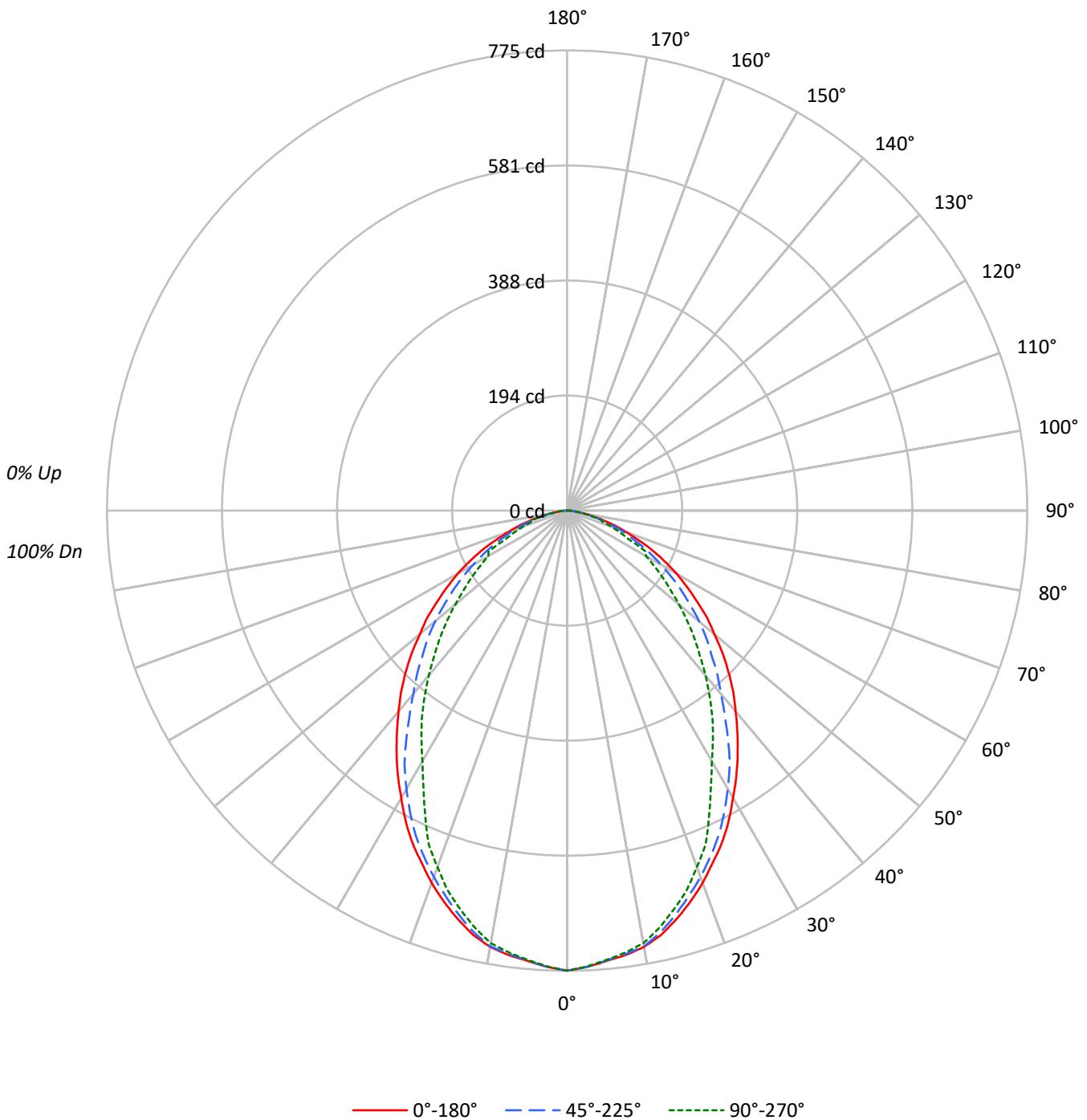
Lumens per Lamp: N/A  
Luminaire Lumens: 1521.0 lumens  
Efficiency: N/A  
Efficacy: 70.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8340	8340	8340
5°	8226	8216	8208
10°	8155	8145	8086
15°	7935	7855	7746
20°	7644	7520	7315
25°	7329	7170	6723
30°	6947	6724	6057
35°	6579	6214	5603
40°	6205	5664	5098
45°	5850	5235	4608
50°	5414	4860	4109
55°	5009	4404	3682
60°	4590	3933	3298
65°	4037	3446	2919
70°	3327	3015	2480
75°	2645	2308	2420
80°	1779	1667	1556
85°	1112	1321	1544

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5850 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.1	4.7
10°-20°	197.9	13.0
20°-30°	274.0	18.0
30°-40°	292.2	19.2
40°-50°	266.6	17.5
50°-60°	208.8	13.7
60°-70°	136.1	8.9
70°-80°	60.3	4.0
80°-90°	13.0	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°	544.1	35.8
0°-40°	836.3	55.0
0°-60°	1311.6	86.2
0°-90°	1521.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1521.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	775	775	775	775	775	
5°	761	760	760	760	760	72
15°	712	712	705	698	695	200
25°	617	614	604	582	566	283
35°	501	497	473	437	426	313
45°	384	376	344	315	303	296
55°	267	259	235	207	196	239
65°	158	150	135	138	115	156
75°	64	59	56	53	58	68
85°	9	10	11	12	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	774.8	774.8	774.8	774.8	774.8
2.5°	769.4	769.4	769.4	768.5	768.5
5°	761.3	760.4	760.4	759.6	759.6
7.5°	755.1	754.2	753.3	752.4	750.6
10°	746.1	746.1	745.2	740.7	739.8
12.5°	731.8	730.9	727.3	721.0	719.2
15°	712.1	712.1	704.9	697.7	695.1
17.5°	690.6	689.7	680.7	673.6	670.0
20°	667.3	665.5	656.5	644.9	638.6
22.5°	641.3	641.3	630.6	615.3	609.1
25°	617.1	613.6	603.7	582.2	566.1
27.5°	589.4	584.0	573.2	542.8	524.0
30°	558.9	556.2	541.0	501.6	487.3
32.5°	530.3	525.8	509.7	468.4	456.8
35°	500.7	497.1	472.9	437.1	426.4
37.5°	471.1	466.7	436.2	407.5	394.1
40°	441.6	436.2	403.1	377.1	362.8
42.5°	413.8	406.6	374.4	346.6	330.5
45°	384.3	376.2	343.9	315.3	302.7
47.5°	354.7	347.5	318.0	288.4	274.1
50°	323.3	317.1	290.2	260.6	245.4
52.5°	297.4	287.5	261.5	232.0	219.4
55°	266.9	258.9	234.7	206.9	196.2
57.5°	239.2	231.1	208.7	182.7	173.8
60°	213.2	201.5	182.7	160.3	153.2
62.5°	184.5	175.6	159.4	140.6	149.6
65°	158.5	149.6	135.3	137.9	114.6
67.5°	129.9	125.4	112.9	100.3	96.7
70°	105.7	100.3	95.8	82.4	78.8
72.5°	84.2	78.8	72.6	65.4	62.7
75°	63.6	59.1	55.5	52.8	58.2
77.5°	43.9	42.1	39.4	36.7	35.8
80°	28.7	27.8	26.9	26.0	25.1
82.5°	17.0	17.0	17.0	17.0	17.0
85°	9.0	9.9	10.7	11.6	12.5
87.5°	5.4	5.4	6.3	7.2	8.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)