

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: P559429

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

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559429  
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-81-86-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

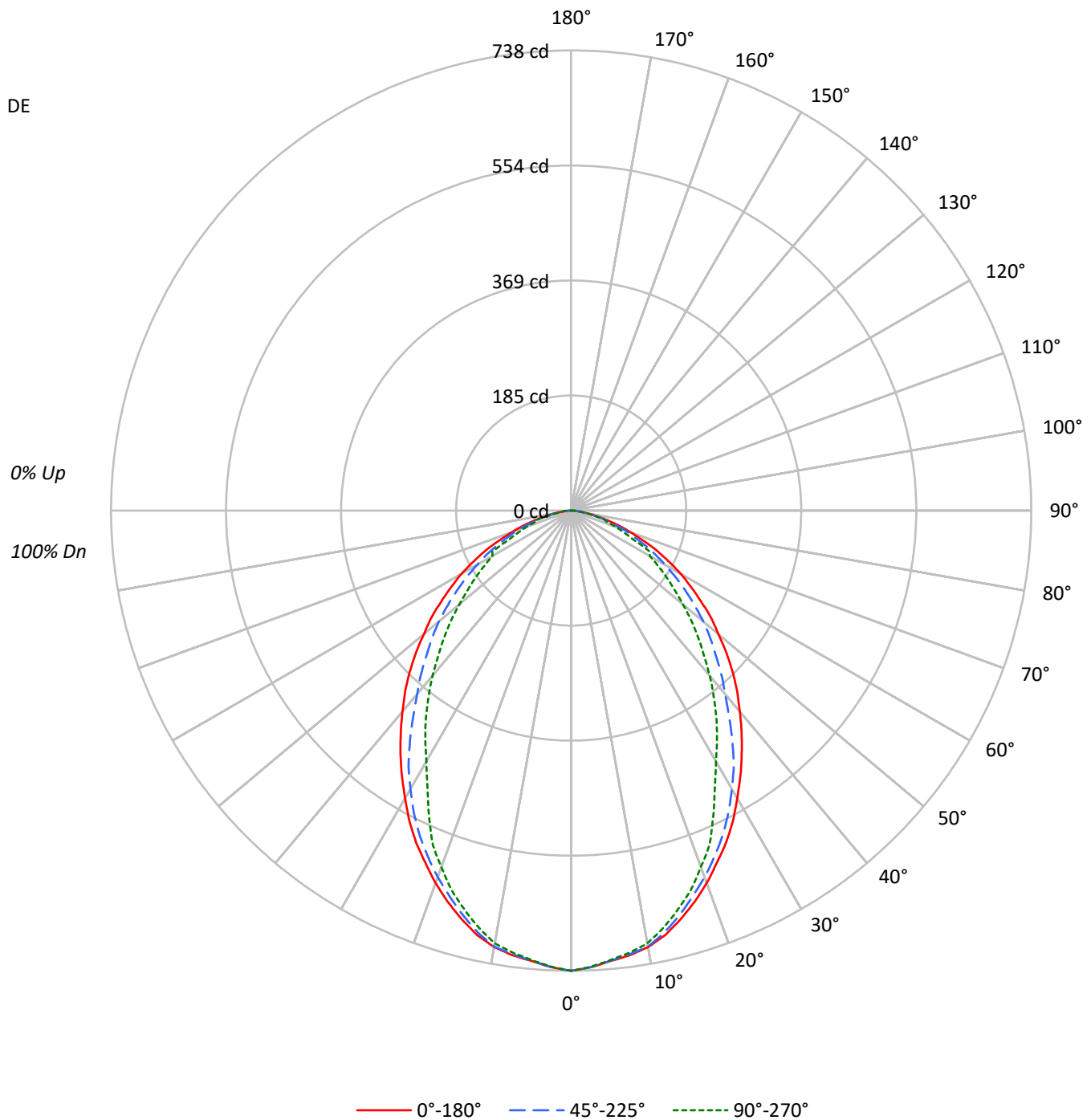
Lumens per Lamp: N/A  
Luminaire Lumens: 1449.0 lumens  
Efficiency: N/A  
Efficacy: 87.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7945	7945	7945
5°	7837	7827	7819
10°	7769	7759	7703
15°	7560	7483	7379
20°	7282	7165	6969
25°	6982	6830	6405
30°	6618	6406	5770
35°	6268	5920	5338
40°	5911	5396	4856
45°	5573	4988	4390
50°	5158	4630	3915
55°	4772	4196	3507
60°	4372	3748	3141
65°	3846	3280	2781
70°	3169	2873	2364
75°	2520	2200	2308
80°	1692	1587	1481
85°	1050	1260	1470

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5573 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.7	4.7
10°-20°	188.6	13.0
20°-30°	261.0	18.0
30°-40°	278.4	19.2
40°-50°	254.0	17.5
50°-60°	199.0	13.7
60°-70°	129.7	8.9
70°-80°	57.4	4.0
80°-90°	12.3	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°	518.3	35.8
0°-40°	796.7	55.0
0°-60°	1249.6	86.2
0°-90°	1449.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1449.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	738	738	738	738	738	
5°	725	724	724	724	724	69
15°	678	678	672	665	662	191
25°	588	584	575	555	539	270
35°	477	474	450	416	406	298
45°	366	358	328	300	288	282
55°	254	247	224	197	187	228
65°	151	142	129	131	109	149
75°	61	56	53	50	56	65
85°	8	9	10	11	12	12
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	738.1	738.1	738.1	738.1	738.1
2.5°	733.0	733.0	733.0	732.1	732.1
5°	725.3	724.4	724.4	723.6	723.6
7.5°	719.3	718.5	717.6	716.8	715.1
10°	710.8	710.8	709.9	705.7	704.8
12.5°	697.1	696.3	692.9	686.9	685.2
15°	678.4	678.4	671.5	664.7	662.2
17.5°	657.9	657.0	648.5	641.7	638.3
20°	635.7	634.0	625.5	614.4	608.4
22.5°	611.0	611.0	600.7	586.2	580.2
25°	587.9	584.5	575.1	554.6	539.3
27.5°	561.5	556.3	546.1	517.1	499.2
30°	532.5	529.9	515.4	477.8	464.2
32.5°	505.2	500.9	485.5	446.3	435.2
35°	477.0	473.6	450.5	416.4	406.2
37.5°	448.8	444.6	415.6	388.2	375.5
40°	420.7	415.6	384.0	359.2	345.6
42.5°	394.2	387.4	356.7	330.2	314.9
45°	366.1	358.4	327.7	300.4	288.4
47.5°	337.9	331.1	302.9	274.8	261.1
50°	308.0	302.1	276.5	248.3	233.8
52.5°	283.3	273.9	249.2	221.0	209.1
55°	254.3	246.6	223.6	197.1	186.9
57.5°	227.8	220.2	198.8	174.1	165.5
60°	203.1	192.0	174.1	152.7	145.9
62.5°	175.8	167.2	151.9	134.0	142.5
65°	151.0	142.5	128.8	131.4	109.2
67.5°	123.7	119.5	107.5	95.6	92.2
70°	100.7	95.6	91.3	78.5	75.1
72.5°	80.2	75.1	69.1	62.3	59.7
75°	60.6	56.3	52.9	50.3	55.5
77.5°	41.8	40.1	37.5	35.0	34.1
80°	27.3	26.5	25.6	24.7	23.9
82.5°	16.2	16.2	16.2	16.2	16.2
85°	8.5	9.4	10.2	11.1	11.9
87.5°	5.1	5.1	6.0	6.8	7.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)