

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: P560132

Luminaire Tested: FSR-12-2-LD4-1STD-50-UNV-81-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560132  
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-LD4-1STD-50-UNV-81-86-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

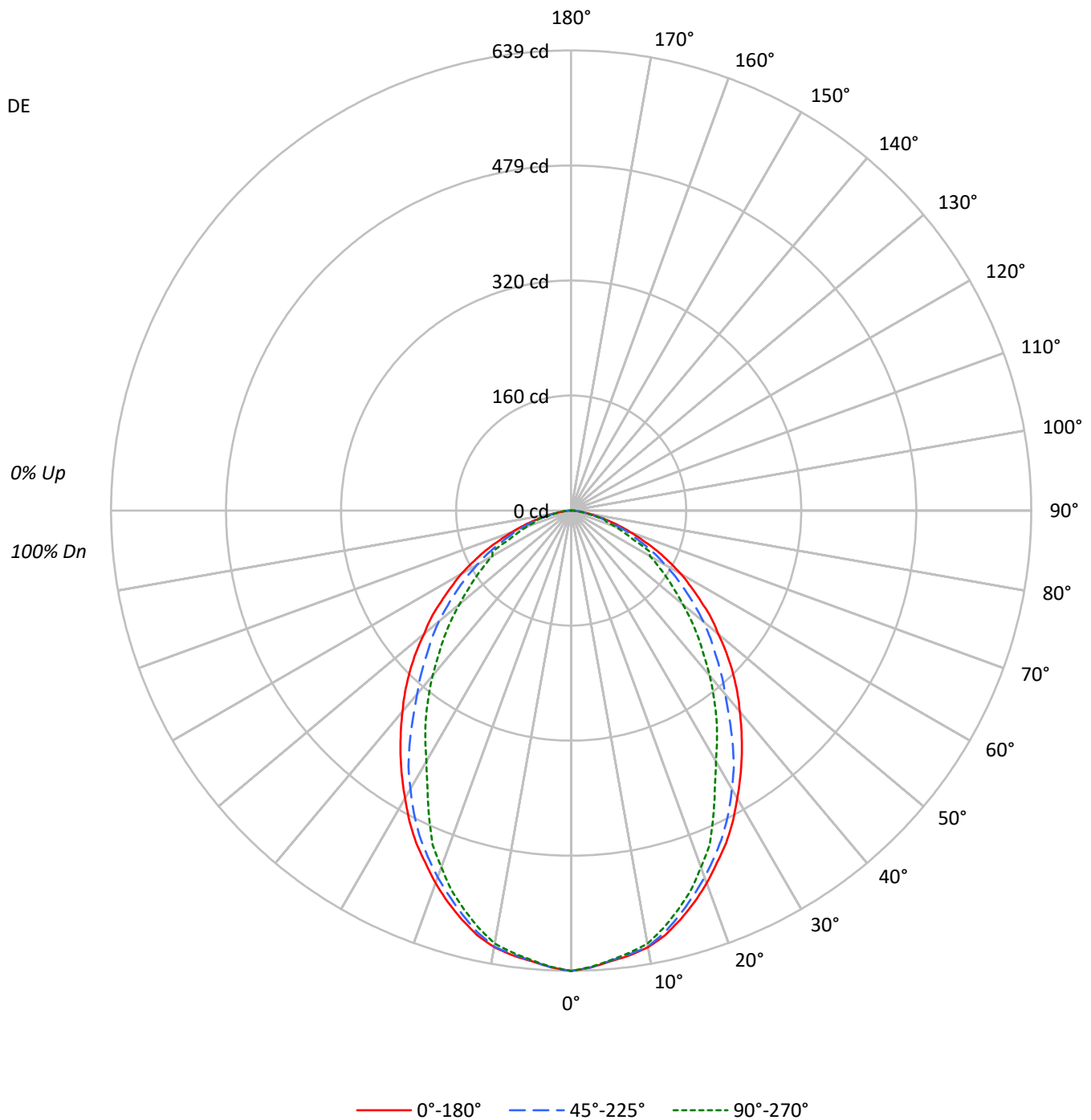
Lumens per Lamp: N/A  
Luminaire Lumens: 1255.0 lumens  
Efficiency: N/A  
Efficacy: 75.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3441	3441	3441
5°	3394	3390	3386
10°	3364	3360	3336
15°	3273	3241	3195
20°	3153	3103	3018
25°	3024	2958	2774
30°	2866	2774	2498
35°	2714	2564	2311
40°	2560	2337	2103
45°	2414	2160	1901
50°	2234	2005	1696
55°	2066	1817	1519
60°	1893	1623	1361
65°	1666	1421	1205
70°	1372	1245	1023
75°	1092	952	998
80°	731	688	642
85°	457	550	636

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2414 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.5	4.7
10°-20°	163.3	13.0
20°-30°	226.1	18.0
30°-40°	241.1	19.2
40°-50°	219.9	17.5
50°-60°	172.3	13.7
60°-70°	112.3	8.9
70°-80°	49.8	4.0
80°-90°	10.7	0.8
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°	448.9	35.8
0°-40°	690.0	55.0
0°-60°	1082.3	86.2
0°-90°	1255.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1255.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	639	639	639	639	639	
5°	628	628	628	627	627	60
15°	588	588	582	576	574	165
25°	509	506	498	480	467	234
35°	413	410	390	361	352	258
45°	317	310	284	260	250	244
55°	220	214	194	171	162	198
65°	131	123	112	114	95	129
75°	52	49	46	44	48	56
85°	7	8	9	10	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	639.3	639.3	639.3	639.3	639.3
2.5°	634.8	634.8	634.8	634.1	634.1
5°	628.2	627.5	627.5	626.7	626.7
7.5°	623.0	622.3	621.5	620.8	619.3
10°	615.6	615.6	614.9	611.2	610.5
12.5°	603.8	603.1	600.1	594.9	593.5
15°	587.5	587.5	581.6	575.7	573.5
17.5°	569.8	569.1	561.7	555.8	552.8
20°	550.6	549.1	541.7	532.1	526.9
22.5°	529.2	529.2	520.3	507.7	502.6
25°	509.2	506.3	498.1	480.4	467.1
27.5°	486.3	481.9	473.0	447.9	432.3
30°	461.2	459.0	446.4	413.9	402.0
32.5°	437.5	433.8	420.5	386.5	376.9
35°	413.1	410.2	390.2	360.7	351.8
37.5°	388.7	385.0	359.9	336.3	325.2
40°	364.4	359.9	332.6	311.1	299.3
42.5°	341.4	335.5	308.9	286.0	272.7
45°	317.1	310.4	283.8	260.1	249.8
47.5°	292.7	286.8	262.4	238.0	226.2
50°	266.8	261.6	239.5	215.1	202.5
52.5°	245.4	237.2	215.8	191.4	181.1
55°	220.2	213.6	193.6	170.7	161.9
57.5°	197.3	190.7	172.2	150.8	143.4
60°	175.9	166.3	150.8	132.3	126.4
62.5°	152.2	144.9	131.6	116.0	123.4
65°	130.8	123.4	111.6	113.8	94.6
67.5°	107.2	103.5	93.1	82.8	79.8
70°	87.2	82.8	79.1	68.0	65.0
72.5°	69.5	65.0	59.9	54.0	51.7
75°	52.5	48.8	45.8	43.6	48.0
77.5°	36.2	34.7	32.5	30.3	29.6
80°	23.6	22.9	22.2	21.4	20.7
82.5°	14.0	14.0	14.0	14.0	14.0
85°	7.4	8.1	8.9	9.6	10.3
87.5°	4.4	4.4	5.2	5.9	6.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)