

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: P559684

Luminaire Tested: FSR-12-2-LD4-1HI-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559684  
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-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

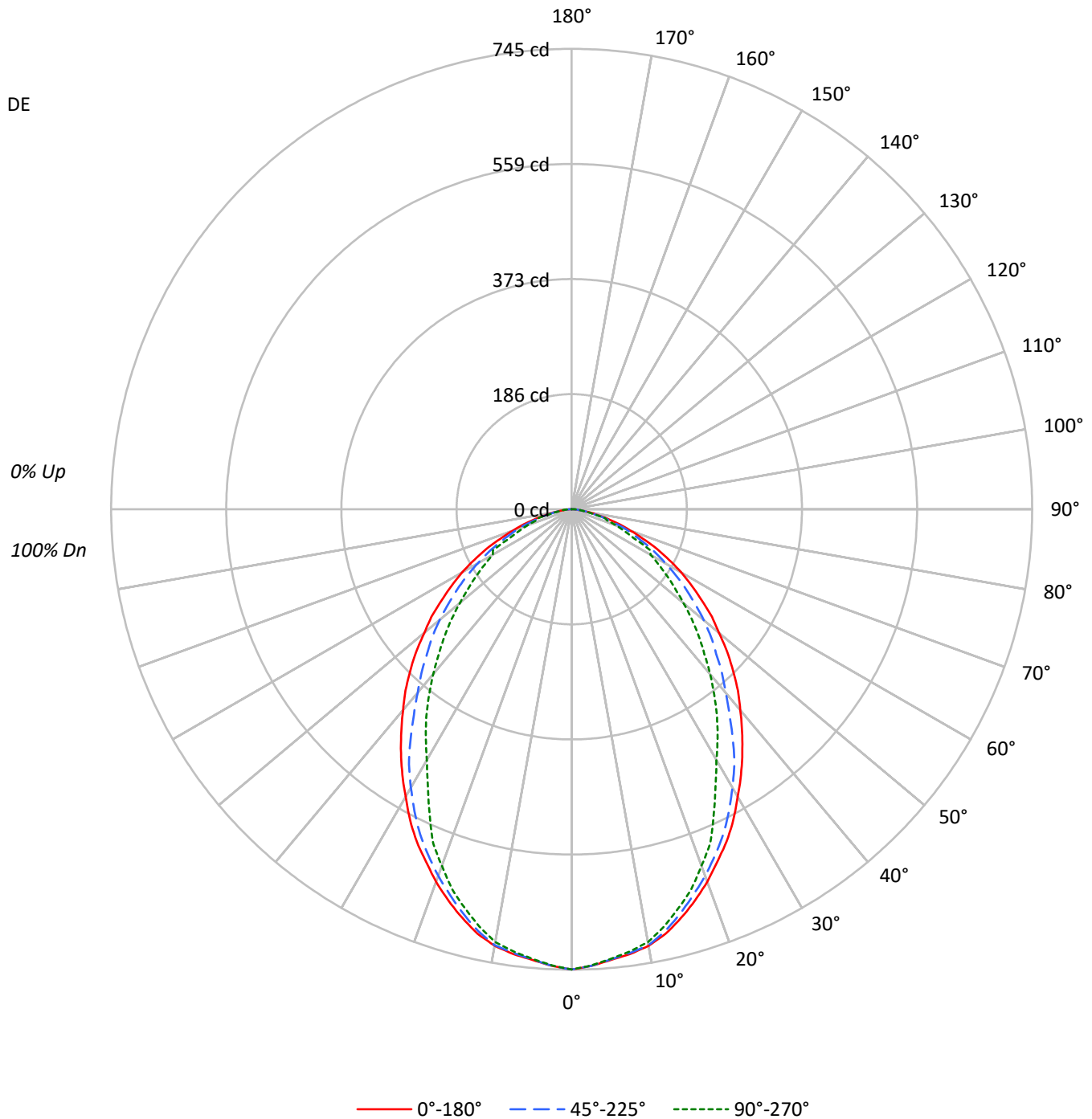
Lumens per Lamp: N/A  
Luminaire Lumens: 1462.0 lumens  
Efficiency: N/A  
Efficacy: 67.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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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	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°	4008	4008	4008
5°	3954	3949	3944
10°	3919	3915	3886
15°	3814	3775	3723
20°	3674	3615	3516
25°	3523	3446	3231
30°	3338	3232	2911
35°	3162	2987	2692
40°	2982	2722	2450
45°	2811	2516	2215
50°	2602	2335	1975
55°	2408	2117	1769
60°	2206	1890	1584
65°	1941	1656	1403
70°	1599	1449	1193
75°	1271	1110	1164
80°	855	800	747
85°	531	636	747

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2811 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.3	4.7
10°-20°	190.3	13.0
20°-30°	263.4	18.0
30°-40°	280.9	19.2
40°-50°	256.2	17.5
50°-60°	200.7	13.7
60°-70°	130.8	8.9
70°-80°	58.0	4.0
80°-90°	12.5	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°	523.0	35.8
0°-40°	803.8	55.0
0°-60°	1260.8	86.2
0°-90°	1462.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1462.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	745	745	745	745	745	
5°	732	731	731	730	730	69
15°	684	684	678	671	668	192
25°	593	590	580	560	544	272
35°	481	478	455	420	410	301
45°	369	362	331	303	291	284
55°	257	249	226	199	188	230
65°	152	144	130	133	110	150
75°	61	57	53	51	56	66
85°	9	10	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°	744.7	744.7	744.7	744.7	744.7
2.5°	739.6	739.6	739.6	738.7	738.7
5°	731.8	730.9	730.9	730.1	730.1
7.5°	725.8	724.9	724.1	723.2	721.5
10°	717.2	717.2	716.3	712.0	711.1
12.5°	703.4	702.5	699.1	693.1	691.3
15°	684.5	684.5	677.6	670.7	668.1
17.5°	663.8	662.9	654.3	647.4	644.0
20°	641.4	639.7	631.1	619.9	613.9
22.5°	616.4	616.4	606.1	591.5	585.4
25°	593.2	589.8	580.3	559.6	544.1
27.5°	566.5	561.3	551.0	521.7	503.7
30°	537.2	534.7	520.0	482.1	468.4
32.5°	509.7	505.4	489.9	450.3	439.1
35°	481.3	477.8	454.6	420.1	409.8
37.5°	452.9	448.6	419.3	391.7	378.8
40°	424.4	419.3	387.4	362.5	348.7
42.5°	397.8	390.9	359.9	333.2	317.7
45°	369.3	361.6	330.6	303.1	291.0
47.5°	340.9	334.0	305.6	277.2	263.5
50°	310.8	304.8	278.9	250.5	235.9
52.5°	285.8	276.4	251.4	223.0	210.9
55°	256.6	248.8	225.6	198.9	188.5
57.5°	229.9	222.1	200.6	175.6	167.0
60°	204.9	193.7	175.6	154.1	147.2
62.5°	177.4	168.7	153.2	135.2	143.8
65°	152.4	143.8	130.0	132.6	110.2
67.5°	124.8	120.5	108.5	96.4	93.0
70°	101.6	96.4	92.1	79.2	75.8
72.5°	80.9	75.8	69.7	62.8	60.3
75°	61.1	56.8	53.4	50.8	56.0
77.5°	42.2	40.5	37.9	35.3	34.4
80°	27.6	26.7	25.8	25.0	24.1
82.5°	16.4	16.4	16.4	16.4	16.4
85°	8.6	9.5	10.3	11.2	12.1
87.5°	5.2	5.2	6.0	6.9	7.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)