

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: P559682

Luminaire Tested: FSR-12-2-LD4-1HI-40-UNV-81-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559682  
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-81-85-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

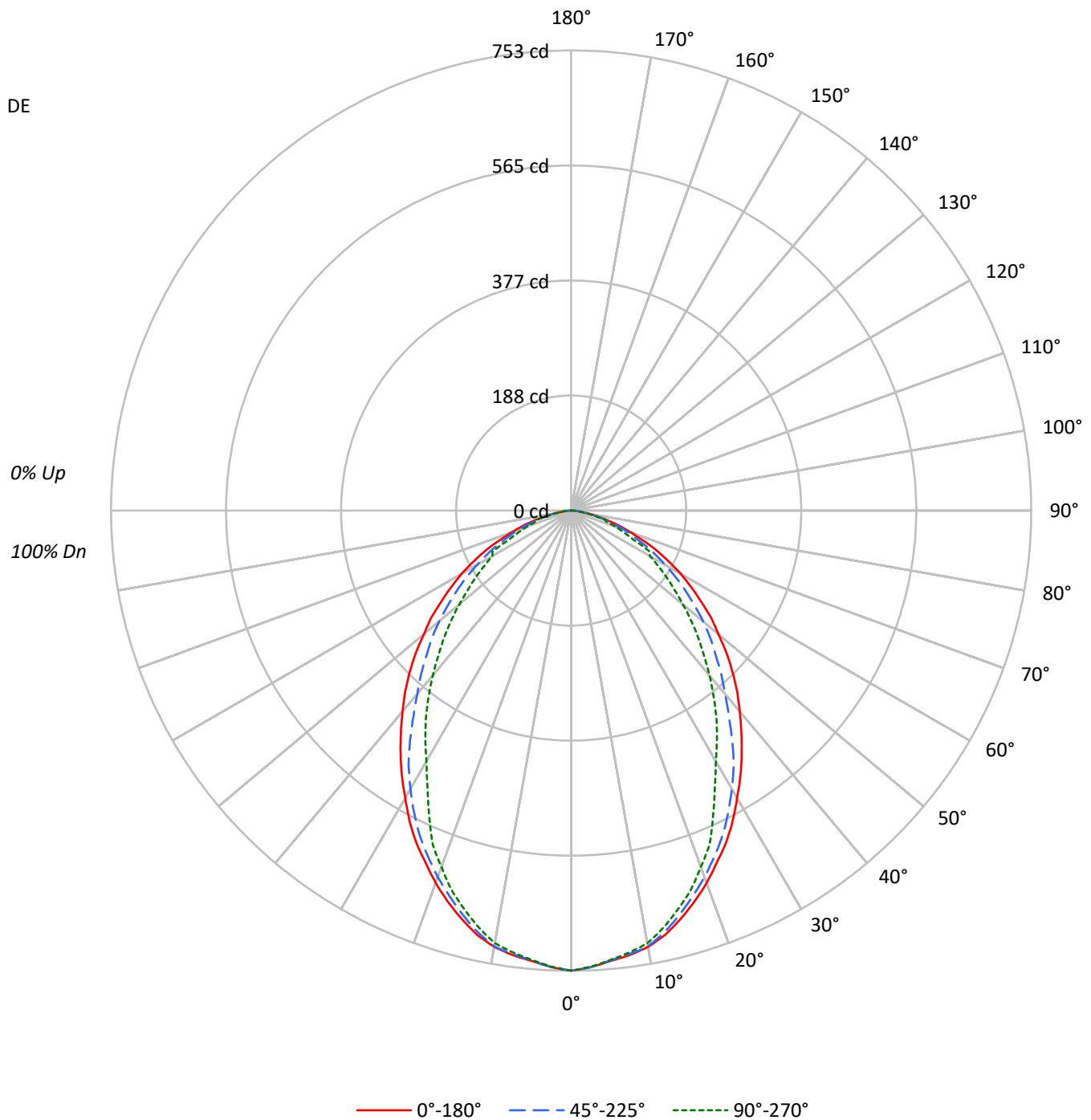
Lumens per Lamp: N/A  
Luminaire Lumens: 1478.0 lumens  
Efficiency: N/A  
Efficacy: 68.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4052	4052	4052
5°	3997	3992	3988
10°	3962	3958	3929
15°	3855	3817	3763
20°	3714	3654	3554
25°	3561	3483	3267
30°	3375	3267	2943
35°	3196	3020	2722
40°	3015	2752	2477
45°	2842	2544	2239
50°	2631	2361	1997
55°	2434	2139	1788
60°	2229	1912	1602
65°	1962	1673	1419
70°	1616	1465	1205
75°	1285	1123	1177
80°	865	809	756
85°	537	642	753

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2842 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.1	4.7
10°-20°	192.3	13.0
20°-30°	266.3	18.0
30°-40°	283.9	19.2
40°-50°	259.0	17.5
50°-60°	202.9	13.7
60°-70°	132.3	8.9
70°-80°	58.6	4.0
80°-90°	12.6	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°	528.7	35.8
0°-40°	812.6	55.0
0°-60°	1274.6	86.2
0°-90°	1478.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1478.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	753	753	753	753	753	
5°	740	739	739	738	738	70
15°	692	692	685	678	675	195
25°	600	596	587	566	550	275
35°	486	483	460	425	414	304
45°	373	366	334	306	294	288
55°	259	252	228	201	191	233
65°	154	145	131	134	111	152
75°	62	57	54	51	57	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°	752.9	752.9	752.9	752.9	752.9
2.5°	747.7	747.7	747.7	746.8	746.8
5°	739.8	738.9	738.9	738.1	738.1
7.5°	733.7	732.9	732.0	731.1	729.4
10°	725.0	725.0	724.2	719.8	718.9
12.5°	711.1	710.2	706.7	700.7	698.9
15°	691.9	691.9	685.0	678.0	675.4
17.5°	671.1	670.2	661.5	654.5	651.0
20°	648.4	646.7	638.0	626.7	620.6
22.5°	623.2	623.2	612.7	597.9	591.9
25°	599.7	596.2	586.6	565.7	550.1
27.5°	572.7	567.5	557.0	527.4	509.2
30°	543.1	540.5	525.7	487.4	473.5
32.5°	515.3	510.9	495.2	455.2	443.9
35°	486.5	483.1	459.6	424.7	414.3
37.5°	457.8	453.5	423.9	396.0	383.0
40°	429.1	423.9	391.7	366.4	352.5
42.5°	402.1	395.1	363.8	336.8	321.2
45°	373.4	365.6	334.2	306.4	294.2
47.5°	344.7	337.7	309.0	280.3	266.3
50°	314.2	308.1	282.0	253.3	238.5
52.5°	289.0	279.4	254.1	225.4	213.2
55°	259.4	251.5	228.0	201.1	190.6
57.5°	232.4	224.6	202.8	177.6	168.9
60°	207.1	195.8	177.6	155.8	148.8
62.5°	179.3	170.6	154.9	136.6	145.4
65°	154.1	145.4	131.4	134.0	111.4
67.5°	126.2	121.9	109.7	97.5	94.0
70°	102.7	97.5	93.1	80.1	76.6
72.5°	81.8	76.6	70.5	63.5	60.9
75°	61.8	57.4	54.0	51.4	56.6
77.5°	42.6	40.9	38.3	35.7	34.8
80°	27.9	27.0	26.1	25.2	24.4
82.5°	16.5	16.5	16.5	16.5	16.5
85°	8.7	9.6	10.4	11.3	12.2
87.5°	5.2	5.2	6.1	7.0	7.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)