

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: P559045

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

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559045  
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-81-86-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**

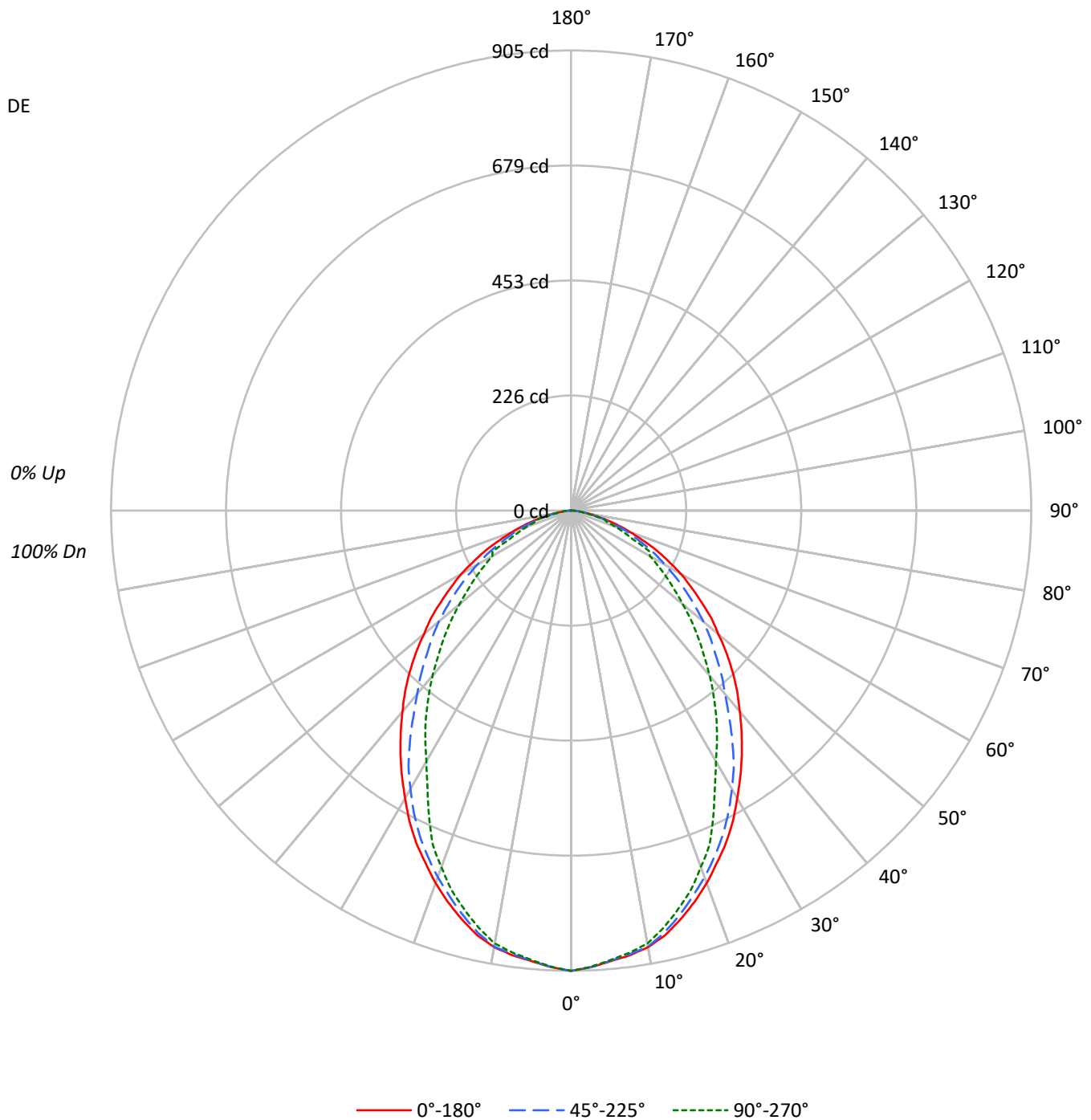
Lumens per Lamp: N/A  
Luminaire Lumens: 1777.0 lumens  
Efficiency: N/A  
Efficacy: 82.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	9743	9743	9743
5°	9611	9599	9588
10°	9528	9516	9448
15°	9270	9178	9049
20°	8930	8786	8546
25°	8563	8377	7855
30°	8116	7856	7076
35°	7687	7260	6545
40°	7249	6617	5955
45°	6833	6116	5384
50°	6327	5678	4801
55°	5851	5146	4301
60°	5363	4596	3851
65°	4717	4024	3410
70°	3887	3525	2899
75°	3090	2699	2828
80°	2077	1946	1816
85°	1297	1556	1815

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6833 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.3	4.7
10°-20°	231.2	13.0
20°-30°	320.1	18.0
30°-40°	341.4	19.2
40°-50°	311.4	17.5
50°-60°	244.0	13.7
60°-70°	159.0	8.9
70°-80°	70.5	4.0
80°-90°	15.1	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°	635.6	35.8
0°-40°	977.0	55.0
0°-60°	1532.4	86.2
0°-90°	1777.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1777.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	905	905	905	905	905	
5°	890	888	888	887	887	84
15°	832	832	824	815	812	234
25°	721	717	705	680	661	331
35°	585	581	552	511	498	366
45°	449	440	402	368	354	346
55°	312	302	274	242	229	280
65°	185	175	158	161	134	183
75°	74	69	65	62	68	80
85°	10	12	13	14	15	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	905.2	905.2	905.2	905.2	905.2
2.5°	898.9	898.9	898.9	897.9	897.9
5°	889.5	888.4	888.4	887.4	887.4
7.5°	882.2	881.1	880.1	879.0	876.9
10°	871.7	871.7	870.6	865.4	864.4
12.5°	855.0	853.9	849.7	842.4	840.3
15°	831.9	831.9	823.6	815.2	812.0
17.5°	806.8	805.8	795.3	786.9	782.7
20°	779.6	777.5	767.0	753.4	746.1
22.5°	749.3	749.3	736.7	718.9	711.6
25°	721.0	716.8	705.3	680.2	661.4
27.5°	688.6	682.3	669.7	634.1	612.2
30°	653.0	649.8	632.1	586.0	569.3
32.5°	619.5	614.3	595.4	547.3	533.7
35°	585.0	580.8	552.5	510.7	498.1
37.5°	550.4	545.2	509.6	476.1	460.4
40°	515.9	509.6	470.9	440.6	423.8
42.5°	483.5	475.1	437.4	405.0	386.1
45°	448.9	439.5	401.8	368.4	353.7
47.5°	414.4	406.0	371.5	337.0	320.2
50°	377.8	370.4	339.1	304.5	286.7
52.5°	347.4	335.9	305.6	271.0	256.4
55°	311.8	302.4	274.2	241.7	229.2
57.5°	279.4	270.0	243.8	213.5	203.0
60°	249.1	235.5	213.5	187.3	178.9
62.5°	215.6	205.1	186.3	164.3	174.8
65°	185.2	174.8	158.0	161.2	133.9
67.5°	151.7	146.5	131.9	117.2	113.0
70°	123.5	117.2	112.0	96.3	92.1
72.5°	98.4	92.1	84.8	76.4	73.3
75°	74.3	69.1	64.9	61.7	68.0
77.5°	51.3	49.2	46.0	42.9	41.9
80°	33.5	32.4	31.4	30.3	29.3
82.5°	19.9	19.9	19.9	19.9	19.9
85°	10.5	11.5	12.6	13.6	14.7
87.5°	6.3	6.3	7.3	8.4	9.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)