

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: P559889

Luminaire Tested: FSR-12-2-LD4-1LO-40-UNV-82-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559889  
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-LD4-1LO-40-UNV-82-84-EDD  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

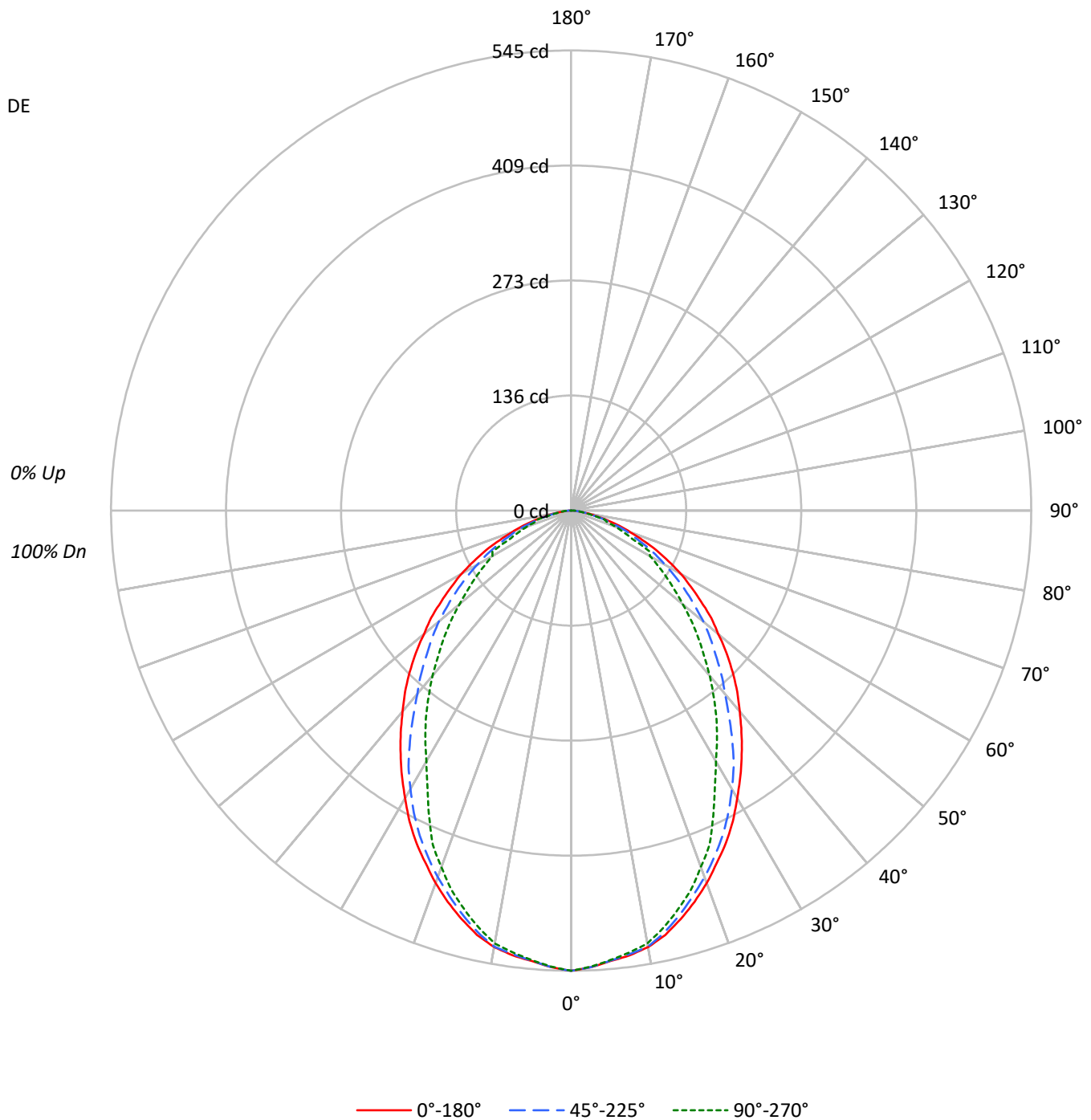
Lumens per Lamp: N/A  
Luminaire Lumens: 1070.0 lumens  
Efficiency: N/A  
Efficacy: 91.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	2933	2933	2933
5°	2894	2890	2887
10°	2869	2865	2845
15°	2791	2763	2725
20°	2688	2645	2573
25°	2578	2522	2365
30°	2444	2365	2130
35°	2314	2186	1970
40°	2182	1992	1793
45°	2057	1842	1621
50°	1905	1710	1445
55°	1762	1549	1295
60°	1615	1383	1159
65°	1420	1211	1028
70°	1171	1061	872
75°	930	813	853
80°	626	586	545
85°	389	469	543

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2057 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	50.7	4.7
10°-20°	139.2	13.0
20°-30°	192.8	18.0
30°-40°	205.5	19.2
40°-50°	187.5	17.5
50°-60°	146.9	13.7
60°-70°	95.7	8.9
70°-80°	42.4	4.0
80°-90°	9.1	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°	382.8	35.8
0°-40°	588.3	55.0
0°-60°	922.7	86.2
0°-90°	1070.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1070.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	545	545	545	545	545	
5°	536	535	535	534	534	51
15°	501	501	496	491	489	141
25°	434	432	425	410	398	199
35°	352	350	333	308	300	220
45°	270	265	242	222	213	208
55°	188	182	165	146	138	168
65°	112	105	95	97	81	110
75°	45	42	39	37	41	48
85°	6	7	8	8	9	9
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	545.0	545.0	545.0	545.0	545.0
2.5°	541.3	541.3	541.3	540.6	540.6
5°	535.6	535.0	535.0	534.3	534.3
7.5°	531.2	530.6	529.9	529.3	528.0
10°	524.9	524.9	524.3	521.1	520.5
12.5°	514.8	514.2	511.6	507.2	506.0
15°	500.9	500.9	495.9	490.9	489.0
17.5°	485.8	485.2	478.9	473.8	471.3
20°	469.4	468.2	461.9	453.7	449.3
22.5°	451.2	451.2	443.6	432.9	428.5
25°	434.1	431.6	424.7	409.6	398.2
27.5°	414.6	410.8	403.3	381.8	368.6
30°	393.2	391.3	380.6	352.9	342.8
32.5°	373.0	369.9	358.5	329.5	321.4
35°	352.2	349.7	332.7	307.5	299.9
37.5°	331.4	328.3	306.9	286.7	277.2
40°	310.6	306.9	283.5	265.3	255.2
42.5°	291.1	286.1	263.4	243.9	232.5
45°	270.3	264.6	242.0	221.8	213.0
47.5°	249.5	244.5	223.7	202.9	192.8
50°	227.5	223.1	204.2	183.4	172.6
52.5°	209.2	202.3	184.0	163.2	154.4
55°	187.8	182.1	165.1	145.6	138.0
57.5°	168.2	162.6	146.8	128.5	122.2
60°	150.0	141.8	128.5	112.8	107.7
62.5°	129.8	123.5	112.2	98.9	105.2
65°	111.5	105.2	95.1	97.0	80.7
67.5°	91.4	88.2	79.4	70.6	68.1
70°	74.4	70.6	67.4	58.0	55.4
72.5°	59.2	55.4	51.0	46.0	44.1
75°	44.7	41.6	39.1	37.2	41.0
77.5°	30.9	29.6	27.7	25.8	25.2
80°	20.2	19.5	18.9	18.3	17.6
82.5°	12.0	12.0	12.0	12.0	12.0
85°	6.3	6.9	7.6	8.2	8.8
87.5°	3.8	3.8	4.4	5.0	5.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)