

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: P559499

Luminaire Tested: FSR-12-1-LD4-2STD-40-UNV-81-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559499  
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-LD4-2STD-40-UNV-81-94-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

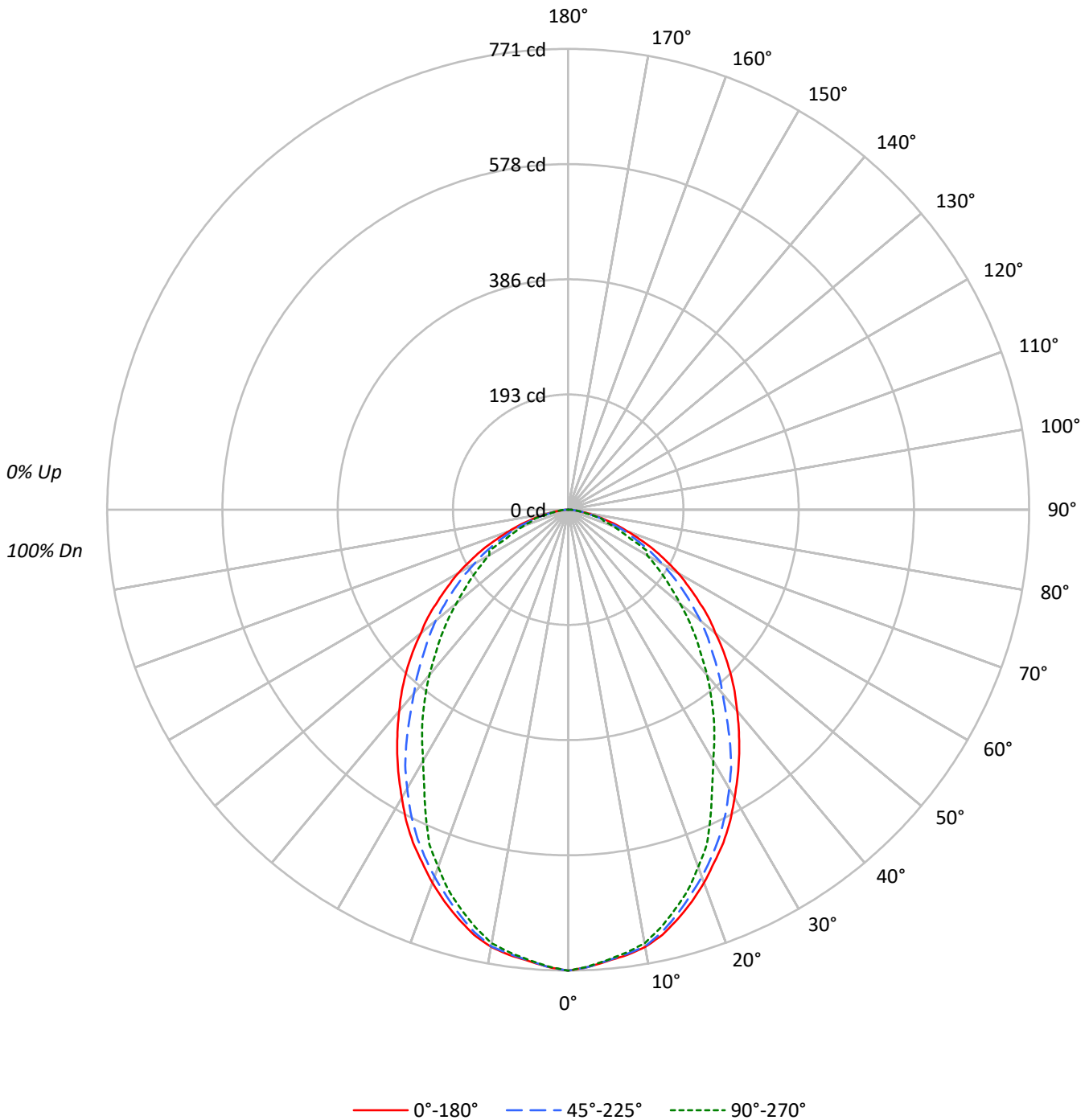
Lumens per Lamp: N/A  
Luminaire Lumens: 1514.0 lumens  
Efficiency: N/A  
Efficacy: 91.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8301	8301	8301
5°	8188	8178	8170
10°	8118	8108	8049
15°	7899	7819	7710
20°	7608	7486	7282
25°	7296	7137	6693
30°	6914	6693	6028
35°	6549	6186	5577
40°	6176	5637	5074
45°	5823	5212	4588
50°	5390	4838	4091
55°	4986	4384	3665
60°	4568	3916	3283
65°	4019	3428	2906
70°	3311	3002	2471
75°	2633	2300	2412
80°	1767	1655	1550
85°	1099	1321	1544

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5823 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	71.8	4.7
10°-20°	197.0	13.0
20°-30°	272.8	18.0
30°-40°	290.8	19.2
40°-50°	265.3	17.5
50°-60°	207.9	13.7
60°-70°	135.5	8.9
70°-80°	60.0	4.0
80°-90°	12.9	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°	541.6	35.8
0°-40°	832.4	55.0
0°-60°	1305.6	86.2
0°-90°	1514.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1514.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	771	771	771	771	771	
5°	758	757	757	756	756	72
15°	709	709	702	694	692	199
25°	614	611	601	580	564	282
35°	498	495	471	435	424	312
45°	382	374	342	314	301	295
55°	266	258	234	206	195	238
65°	158	149	135	137	114	156
75°	63	59	55	53	58	68
85°	9	10	11	12	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	771.2	771.2	771.2	771.2	771.2
2.5°	765.9	765.9	765.9	765.0	765.0
5°	757.8	756.9	756.9	756.1	756.1
7.5°	751.6	750.7	749.8	748.9	747.1
10°	742.7	742.7	741.8	737.3	736.4
12.5°	728.4	727.5	724.0	717.7	715.9
15°	708.8	708.8	701.7	694.5	691.9
17.5°	687.4	686.5	677.6	670.5	666.9
20°	664.2	662.4	653.5	641.9	635.7
22.5°	638.4	638.4	627.7	612.5	606.3
25°	614.3	610.7	600.9	579.5	563.5
27.5°	586.7	581.3	570.6	540.3	521.6
30°	556.3	553.7	538.5	499.3	485.0
32.5°	527.8	523.4	507.3	466.3	454.7
35°	498.4	494.8	470.8	435.1	424.4
37.5°	469.0	464.5	434.2	405.7	392.3
40°	439.5	434.2	401.2	375.4	361.1
42.5°	411.9	404.8	372.7	345.0	329.0
45°	382.5	374.5	342.4	313.8	301.4
47.5°	353.1	345.9	316.5	287.1	272.8
50°	321.9	315.6	288.9	259.4	244.3
52.5°	296.0	286.2	260.3	230.9	218.4
55°	265.7	257.7	233.6	206.0	195.3
57.5°	238.1	230.0	207.7	181.9	173.0
60°	212.2	200.6	181.9	159.6	152.5
62.5°	183.7	174.7	158.7	140.0	148.9
65°	157.8	148.9	134.6	137.3	114.1
67.5°	129.3	124.8	112.3	99.9	96.3
70°	105.2	99.9	95.4	82.0	78.5
72.5°	83.8	78.5	72.2	65.1	62.4
75°	63.3	58.8	55.3	52.6	58.0
77.5°	43.7	41.9	39.2	36.6	35.7
80°	28.5	27.6	26.7	25.9	25.0
82.5°	16.9	16.9	16.9	16.9	16.9
85°	8.9	9.8	10.7	11.6	12.5
87.5°	5.3	5.3	6.2	7.1	8.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)