

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: P559106

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

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559106  
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-40-UNV-81-85-EDD-90  
Description: 1X1 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**

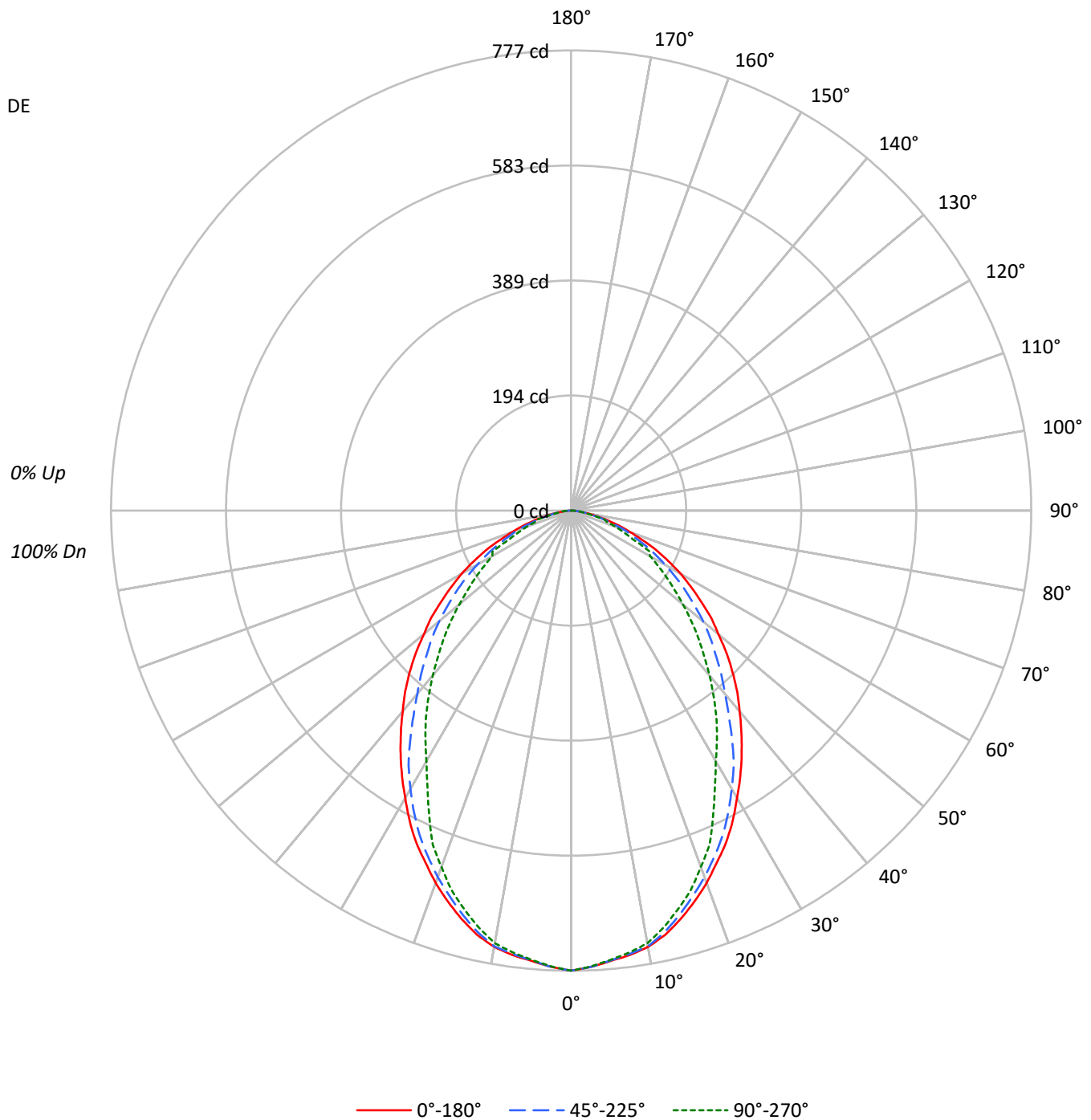
Lumens per Lamp: N/A  
Luminaire Lumens: 1525.0 lumens  
Efficiency: N/A  
Efficacy: 70.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8361	8361	8361
5°	8247	8238	8228
10°	8177	8167	8108
15°	7957	7876	7766
20°	7663	7541	7334
25°	7349	7189	6741
30°	6965	6742	6072
35°	6596	6231	5617
40°	6221	5678	5110
45°	5865	5250	4620
50°	5429	4873	4121
55°	5022	4416	3691
60°	4600	3944	3307
65°	4050	3454	2929
70°	3336	3024	2486
75°	2653	2316	2429
80°	1779	1667	1556
85°	1112	1334	1556

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5865 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.3	4.7
10°-20°	198.5	13.0
20°-30°	274.7	18.0
30°-40°	293.0	19.2
40°-50°	267.3	17.5
50°-60°	209.4	13.7
60°-70°	136.5	8.9
70°-80°	60.5	4.0
80°-90°	13.0	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°	545.5	35.8
0°-40°	838.5	55.0
0°-60°	1315.1	86.2
0°-90°	1525.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1525.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	777	777	777	777	777	
5°	763	762	762	762	762	72
15°	714	714	707	700	697	201
25°	619	615	605	584	568	284
35°	502	498	474	438	428	314
45°	385	377	345	316	304	297
55°	268	260	235	207	197	240
65°	159	150	136	138	115	157
75°	64	59	56	53	58	68
85°	9	10	11	12	13	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	776.8	776.8	776.8	776.8	776.8
2.5°	771.4	771.4	771.4	770.5	770.5
5°	763.3	762.4	762.4	761.5	761.5
7.5°	757.1	756.2	755.3	754.4	752.6
10°	748.1	748.1	747.2	742.7	741.8
12.5°	733.7	732.8	729.2	722.9	721.1
15°	714.0	714.0	706.8	699.6	696.9
17.5°	692.4	691.5	682.5	675.3	671.7
20°	669.0	667.3	658.3	646.6	640.3
22.5°	643.0	643.0	632.2	617.0	610.7
25°	618.8	615.2	605.3	583.7	567.6
27.5°	590.9	585.5	574.8	544.2	525.4
30°	560.4	557.7	542.4	502.9	488.5
32.5°	531.6	527.2	511.0	469.7	458.0
35°	502.0	498.4	474.2	438.2	427.5
37.5°	472.4	467.9	437.4	408.6	395.1
40°	442.7	437.4	404.1	378.1	363.7
42.5°	414.9	407.7	375.4	347.5	331.4
45°	385.3	377.2	344.9	316.1	303.5
47.5°	355.6	348.4	318.8	289.2	274.8
50°	324.2	317.9	291.0	261.3	246.1
52.5°	298.2	288.3	262.2	232.6	220.0
55°	267.6	259.5	235.3	207.4	196.7
57.5°	239.8	231.7	209.2	183.2	174.2
60°	213.7	202.1	183.2	160.8	153.6
62.5°	185.0	176.0	159.9	141.0	150.0
65°	159.0	150.0	135.6	138.3	115.0
67.5°	130.2	125.7	113.2	100.6	97.0
70°	106.0	100.6	96.1	82.6	79.0
72.5°	84.4	79.0	72.7	65.6	62.9
75°	63.8	59.3	55.7	53.0	58.4
77.5°	44.0	42.2	39.5	36.8	35.9
80°	28.7	27.8	26.9	26.0	25.1
82.5°	17.1	17.1	17.1	17.1	17.1
85°	9.0	9.9	10.8	11.7	12.6
87.5°	5.4	5.4	6.3	7.2	8.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)