

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: P559512

Luminaire Tested: FSR-12-1-LD4-2STD-40-UNV-82-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559512  
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-82-88-EDD-90  
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

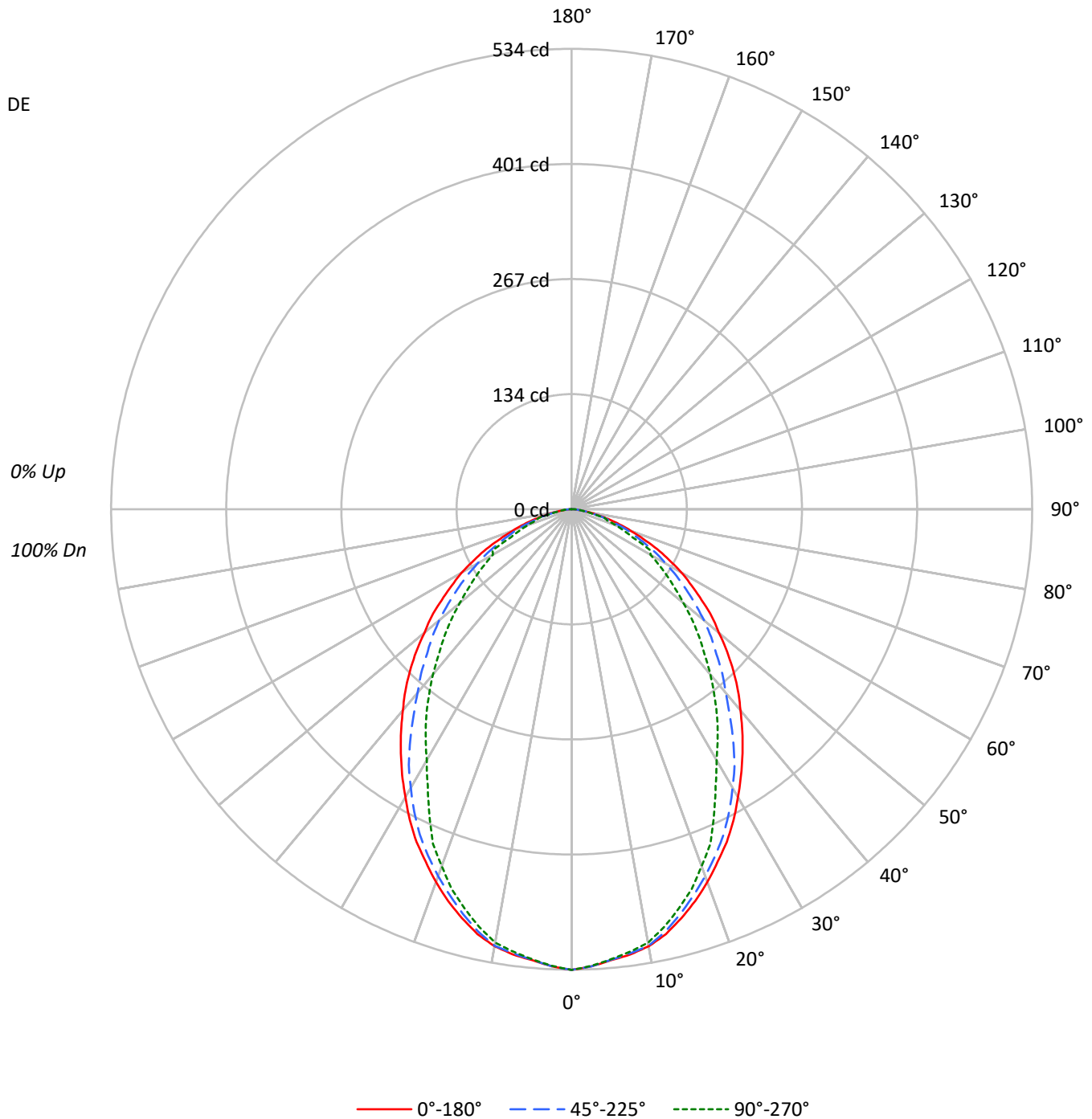
Lumens per Lamp: N/A  
Luminaire Lumens: 1049.0 lumens  
Efficiency: N/A  
Efficacy: 63.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5751	5751	5751
5°	5674	5667	5660
10°	5625	5618	5578
15°	5473	5418	5342
20°	5271	5187	5045
25°	5055	4945	4637
30°	4791	4637	4177
35°	4537	4286	3863
40°	4279	3906	3516
45°	4034	3611	3178
50°	3734	3351	2835
55°	3455	3036	2539
60°	3165	2713	2273
65°	2784	2376	2015
70°	2294	2080	1712
75°	1826	1593	1672
80°	1227	1147	1072
85°	766	914	1062

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4034 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.7	4.7
10°-20°	136.5	13.0
20°-30°	189.0	18.0
30°-40°	201.5	19.2
40°-50°	183.8	17.5
50°-60°	144.0	13.7
60°-70°	93.9	8.9
70°-80°	41.6	4.0
80°-90°	8.9	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°	375.2	35.8
0°-40°	576.8	55.0
0°-60°	904.6	86.2
0°-90°	1049.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1049.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	534	534	534	534	534	
5°	525	524	524	524	524	50
15°	491	491	486	481	479	138
25°	426	423	416	402	390	195
35°	345	343	326	302	294	216
45°	265	260	237	217	209	204
55°	184	178	162	143	135	165
65°	109	103	93	95	79	108
75°	44	41	38	36	40	47
85°	6	7	7	8	9	9
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	534.3	534.3	534.3	534.3	534.3
2.5°	530.6	530.6	530.6	530.0	530.0
5°	525.1	524.5	524.5	523.8	523.8
7.5°	520.8	520.1	519.5	518.9	517.7
10°	514.6	514.6	514.0	510.9	510.3
12.5°	504.7	504.1	501.6	497.3	496.0
15°	491.1	491.1	486.2	481.2	479.4
17.5°	476.3	475.7	469.5	464.5	462.1
20°	460.2	459.0	452.8	444.8	440.4
22.5°	442.3	442.3	434.9	424.4	420.1
25°	425.6	423.2	416.4	401.5	390.4
27.5°	406.5	402.8	395.4	374.4	361.4
30°	385.5	383.6	373.1	345.9	336.1
32.5°	365.7	362.6	351.5	323.1	315.0
35°	345.3	342.8	326.2	301.5	294.0
37.5°	324.9	321.8	300.8	281.1	271.8
40°	304.5	300.8	278.0	260.1	250.2
42.5°	285.4	280.5	258.2	239.1	227.9
45°	265.0	259.5	237.2	217.4	208.8
47.5°	244.6	239.7	219.3	198.9	189.0
50°	223.0	218.7	200.1	179.8	169.3
52.5°	205.1	198.3	180.4	160.0	151.3
55°	184.1	178.5	161.8	142.7	135.3
57.5°	164.9	159.4	143.9	126.0	119.8
60°	147.0	139.0	126.0	110.6	105.6
62.5°	127.3	121.1	110.0	97.0	103.2
65°	109.3	103.2	93.3	95.1	79.1
67.5°	89.6	86.5	77.8	69.2	66.7
70°	72.9	69.2	66.1	56.8	54.4
72.5°	58.1	54.4	50.0	45.1	43.2
75°	43.9	40.8	38.3	36.4	40.2
77.5°	30.3	29.0	27.2	25.3	24.7
80°	19.8	19.1	18.5	17.9	17.3
82.5°	11.7	11.7	11.7	11.7	11.7
85°	6.2	6.8	7.4	8.0	8.6
87.5°	3.7	3.7	4.3	4.9	5.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)