

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: P558658

Luminaire Tested: FSR-12-1-LD4-1LO-35-UNV-81-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P558658  
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-LD4-1LO-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

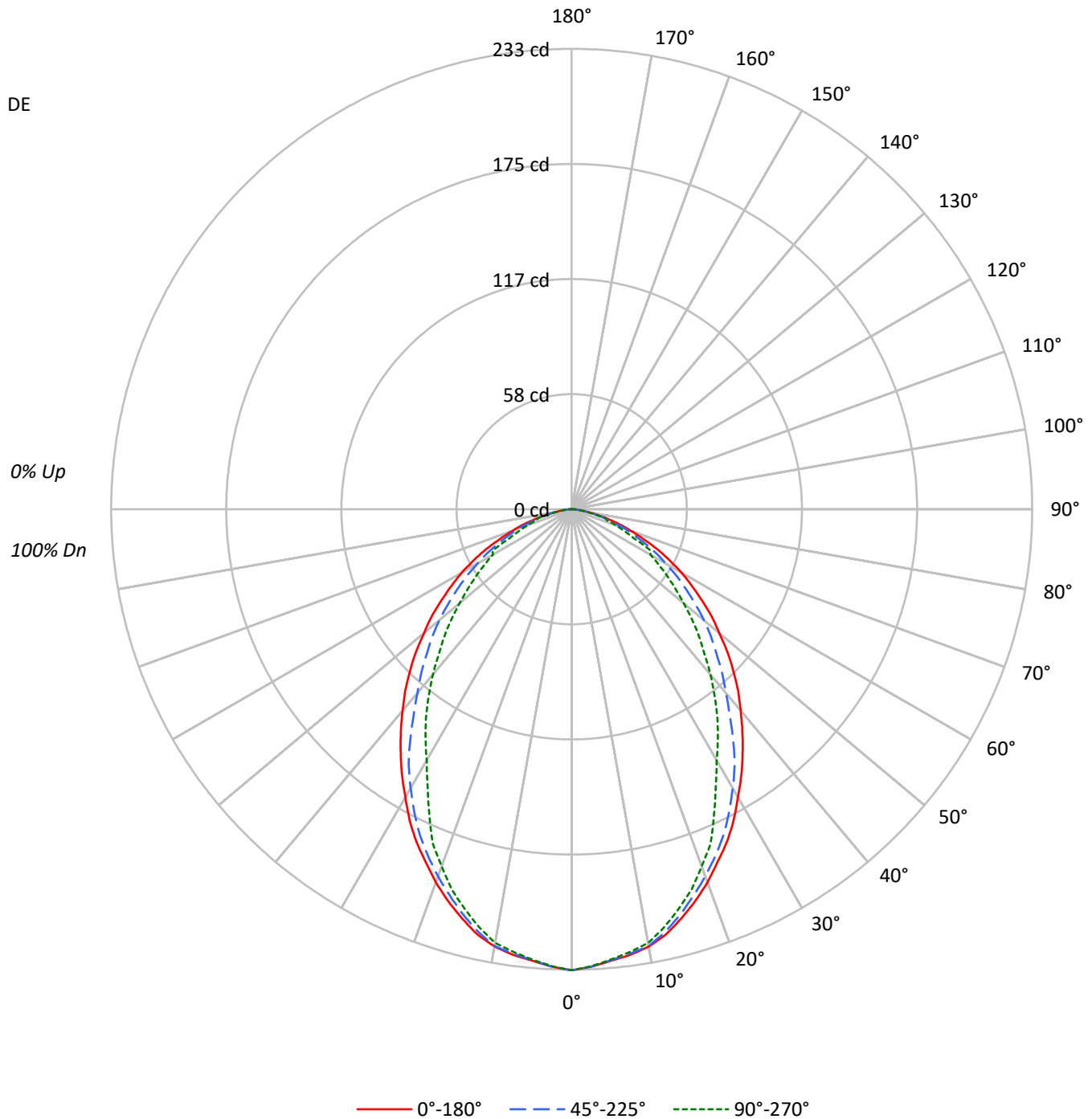
Lumens per Lamp: N/A  
Luminaire Lumens: 458.0 lumens  
Efficiency: N/A  
Efficacy: 79.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 5.8  
Input Voltage (V):  
Input Current (A<sub>in</sub>): 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°	2511	2511	2511
5°	2478	2474	2471
10°	2456	2453	2435
15°	2389	2366	2332
20°	2301	2265	2203
25°	2207	2159	2025
30°	2092	2025	1823
35°	1982	1871	1687
40°	1869	1706	1534
45°	1761	1577	1388
50°	1631	1464	1238
55°	1509	1327	1109
60°	1382	1184	992
65°	1215	1037	879
70°	1001	910	746
75°	794	695	728
80°	533	502	471
85°	333	395	469

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1761 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	21.7	4.7
10°-20°	59.6	13.0
20°-30°	82.5	18.0
30°-40°	88.0	19.2
40°-50°	80.3	17.5
50°-60°	62.9	13.7
60°-70°	41.0	8.9
70°-80°	18.2	4.0
80°-90°	3.9	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°	163.8	35.8
0°-40°	251.8	55.0
0°-60°	395.0	86.2
0°-90°	458.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	458.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	233	233	233	233	233	
5°	229	229	229	229	229	22
15°	214	214	212	210	209	60
25°	186	185	182	175	170	85
35°	151	150	142	132	128	94
45°	116	113	104	95	91	89
55°	80	78	71	62	59	72
65°	48	45	41	42	34	47
75°	19	18	17	16	18	21
85°	3	3	3	4	4	4
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	233.3	233.3	233.3	233.3	233.3
2.5°	231.7	231.7	231.7	231.4	231.4
5°	229.3	229.0	229.0	228.7	228.7
7.5°	227.4	227.1	226.8	226.6	226.0
10°	224.7	224.7	224.4	223.1	222.8
12.5°	220.4	220.1	219.0	217.1	216.6
15°	214.4	214.4	212.3	210.1	209.3
17.5°	207.9	207.7	205.0	202.8	201.7
20°	200.9	200.4	197.7	194.2	192.3
22.5°	193.1	193.1	189.9	185.3	183.4
25°	185.8	184.8	181.8	175.3	170.5
27.5°	177.5	175.9	172.6	163.4	157.8
30°	168.3	167.5	162.9	151.0	146.7
32.5°	159.7	158.3	153.5	141.1	137.6
35°	150.8	149.7	142.4	131.6	128.4
37.5°	141.9	140.5	131.3	122.7	118.7
40°	133.0	131.3	121.4	113.5	109.2
42.5°	124.6	122.4	112.7	104.4	99.5
45°	115.7	113.3	103.6	94.9	91.2
47.5°	106.8	104.6	95.7	86.8	82.5
50°	97.4	95.5	87.4	78.5	73.9
52.5°	89.5	86.6	78.8	69.9	66.1
55°	80.4	77.9	70.7	62.3	59.1
57.5°	72.0	69.6	62.8	55.0	52.3
60°	64.2	60.7	55.0	48.3	46.1
62.5°	55.6	52.9	48.0	42.3	45.0
65°	47.7	45.0	40.7	41.5	34.5
67.5°	39.1	37.8	34.0	30.2	29.1
70°	31.8	30.2	28.9	24.8	23.7
72.5°	25.4	23.7	21.8	19.7	18.9
75°	19.1	17.8	16.7	15.9	17.5
77.5°	13.2	12.7	11.9	11.1	10.8
80°	8.6	8.4	8.1	7.8	7.6
82.5°	5.1	5.1	5.1	5.1	5.1
85°	2.7	3.0	3.2	3.5	3.8
87.5°	1.6	1.6	1.9	2.2	2.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)