

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: P559043

Luminaire Tested: FSR-12-1-LD4-2HI-35-UNV-81-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559043  
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-35-UNV-81-85-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

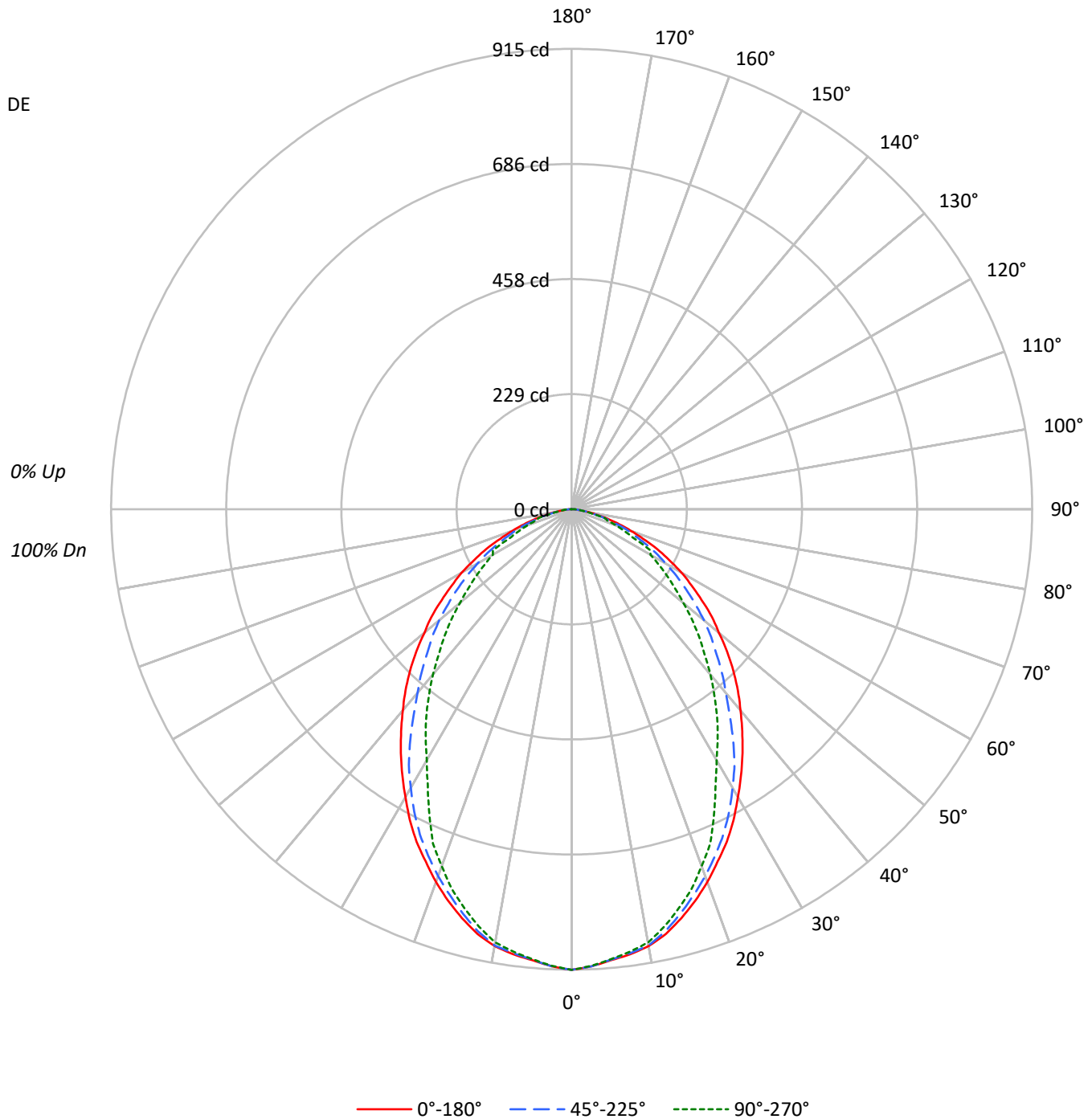
Lumens per Lamp: N/A  
Luminaire Lumens: 1797.0 lumens  
Efficiency: N/A  
Efficacy: 83.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9853	9853	9853
5°	9719	9707	9696
10°	9635	9623	9554
15°	9375	9280	9151
20°	9031	8885	8643
25°	8659	8470	7943
30°	8207	7945	7155
35°	7772	7341	6619
40°	7331	6691	6022
45°	6911	6186	5445
50°	6397	5742	4856
55°	5919	5204	4350
60°	5423	4648	3897
65°	4770	4070	3451
70°	3931	3563	2930
75°	3123	2728	2861
80°	2101	1965	1835
85°	1309	1568	1828

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6911 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.2	4.7
10°-20°	233.9	13.0
20°-30°	323.7	18.0
30°-40°	345.2	19.2
40°-50°	314.9	17.5
50°-60°	246.7	13.7
60°-70°	160.8	8.9
70°-80°	71.2	4.0
80°-90°	15.3	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°	642.8	35.8
0°-40°	988.0	55.0
0°-60°	1549.7	86.2
0°-90°	1797.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1797.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	915	915	915	915	915	
5°	900	898	898	897	897	85
15°	841	841	833	824	821	237
25°	729	725	713	688	669	335
35°	592	587	559	516	504	370
45°	454	444	406	372	358	350
55°	315	306	277	244	232	283
65°	187	177	160	163	136	185
75°	75	70	66	62	69	81
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	915.4	915.4	915.4	915.4	915.4
2.5°	909.0	909.0	909.0	908.0	908.0
5°	899.5	898.4	898.4	897.4	897.4
7.5°	892.1	891.0	890.0	888.9	886.8
10°	881.5	881.5	880.4	875.2	874.1
12.5°	864.6	863.5	859.3	851.9	849.8
15°	841.3	841.3	832.8	824.4	821.2
17.5°	815.9	814.8	804.3	795.8	791.6
20°	788.4	786.3	775.7	761.9	754.5
22.5°	757.7	757.7	745.0	727.0	719.6
25°	729.1	724.9	713.2	687.8	668.8
27.5°	696.3	690.0	677.3	641.3	619.1
30°	660.3	657.2	639.2	592.6	575.7
32.5°	626.5	621.2	602.1	553.5	539.7
35°	591.5	587.3	558.7	516.4	503.7
37.5°	556.6	551.3	515.4	481.5	465.6
40°	521.7	515.4	476.2	445.5	428.6
42.5°	488.9	480.4	442.3	409.5	390.5
45°	454.0	444.5	406.4	372.5	357.7
47.5°	419.1	410.6	375.7	340.7	323.8
50°	382.0	374.6	342.9	307.9	290.0
52.5°	351.3	339.7	309.0	274.1	259.3
55°	315.4	305.8	277.3	244.5	231.8
57.5°	282.5	273.0	246.6	215.9	205.3
60°	251.9	238.1	215.9	189.4	181.0
62.5°	218.0	207.4	188.4	166.1	176.7
65°	187.3	176.7	159.8	163.0	135.5
67.5°	153.4	148.2	133.3	118.5	114.3
70°	124.9	118.5	113.2	97.4	93.1
72.5°	99.5	93.1	85.7	77.3	74.1
75°	75.1	69.8	65.6	62.4	68.8
77.5°	51.9	49.7	46.6	43.4	42.3
80°	33.9	32.8	31.7	30.7	29.6
82.5°	20.1	20.1	20.1	20.1	20.1
85°	10.6	11.6	12.7	13.8	14.8
87.5°	6.3	6.3	7.4	8.5	9.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)