

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: P558471

Luminaire Tested: FSR-12-1-LD4-1HI-35-UNV-81-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P558471  
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-LD4-1HI-35-UNV-81-87-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

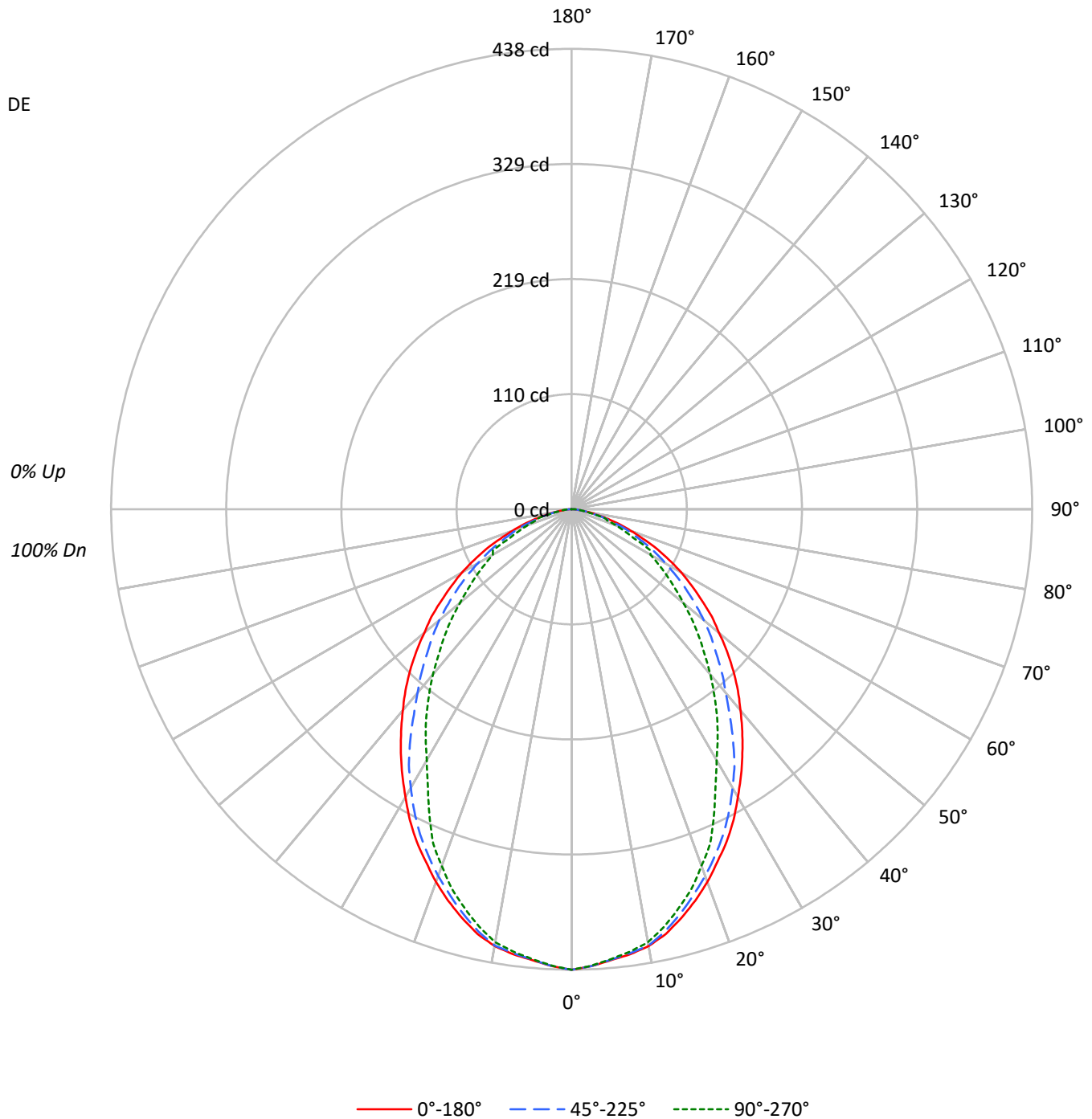
Lumens per Lamp: N/A  
Luminaire Lumens: 860.0 lumens  
Efficiency: N/A  
Efficacy: 79.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 10.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4716	4716	4716
5°	4652	4646	4641
10°	4611	4606	4572
15°	4486	4442	4379
20°	4322	4252	4136
25°	4144	4054	3802
30°	3928	3802	3424
35°	3720	3514	3168
40°	3509	3202	2882
45°	3308	2961	2606
50°	3061	2748	2324
55°	2832	2490	2081
60°	2594	2224	1864
65°	2282	1948	1650
70°	1882	1706	1404
75°	1497	1306	1368
80°	1004	942	880
85°	630	753	877

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3308 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.8	4.7
10°-20°	111.9	13.0
20°-30°	154.9	18.0
30°-40°	165.2	19.2
40°-50°	150.7	17.5
50°-60°	118.1	13.7
60°-70°	77.0	8.9
70°-80°	34.1	4.0
80°-90°	7.3	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°	307.6	35.8
0°-40°	472.8	55.0
0°-60°	741.6	86.2
0°-90°	860.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	860.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	438	438	438	438	438	
5°	430	430	430	430	430	41
15°	403	403	399	394	393	113
25°	349	347	341	329	320	160
35°	283	281	267	247	241	177
45°	217	213	194	178	171	167
55°	151	146	133	117	111	135
65°	90	85	76	78	65	88
75°	36	33	31	30	33	39
85°	5	6	6	7	7	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	438.1	438.1	438.1	438.1	438.1
2.5°	435.0	435.0	435.0	434.5	434.5
5°	430.5	430.0	430.0	429.5	429.5
7.5°	426.9	426.4	425.9	425.4	424.4
10°	421.9	421.9	421.4	418.8	418.3
12.5°	413.8	413.3	411.2	407.7	406.7
15°	402.6	402.6	398.6	394.5	393.0
17.5°	390.5	390.0	384.9	380.8	378.8
20°	377.3	376.3	371.2	364.6	361.1
22.5°	362.6	362.6	356.5	347.9	344.4
25°	348.9	346.9	341.3	329.2	320.1
27.5°	333.2	330.2	324.1	306.9	296.3
30°	316.0	314.5	305.9	283.6	275.5
32.5°	299.8	297.3	288.2	264.9	258.3
35°	283.1	281.1	267.4	247.1	241.1
37.5°	266.4	263.9	246.6	230.4	222.8
40°	249.7	246.6	227.9	213.2	205.1
42.5°	234.0	229.9	211.7	196.0	186.9
45°	217.3	212.7	194.5	178.3	171.2
47.5°	200.6	196.5	179.8	163.1	155.0
50°	182.8	179.3	164.1	147.4	138.8
52.5°	168.1	162.6	147.9	131.2	124.1
55°	150.9	146.4	132.7	117.0	110.9
57.5°	135.2	130.7	118.0	103.3	98.2
60°	120.5	113.9	103.3	90.7	86.6
62.5°	104.3	99.3	90.1	79.5	84.6
65°	89.6	84.6	76.5	78.0	64.8
67.5°	73.4	70.9	63.8	56.7	54.7
70°	59.8	56.7	54.2	46.6	44.6
72.5°	47.6	44.6	41.0	37.0	35.5
75°	36.0	33.4	31.4	29.9	32.9
77.5°	24.8	23.8	22.3	20.8	20.3
80°	16.2	15.7	15.2	14.7	14.2
82.5°	9.6	9.6	9.6	9.6	9.6
85°	5.1	5.6	6.1	6.6	7.1
87.5°	3.0	3.0	3.5	4.1	4.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)