

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: P560415

Luminaire Tested: FSR-12-2-LD4-2LO-35-UNV-82-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560415  
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-12-2-LD4-2LO-35-UNV-82-97-EDD  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

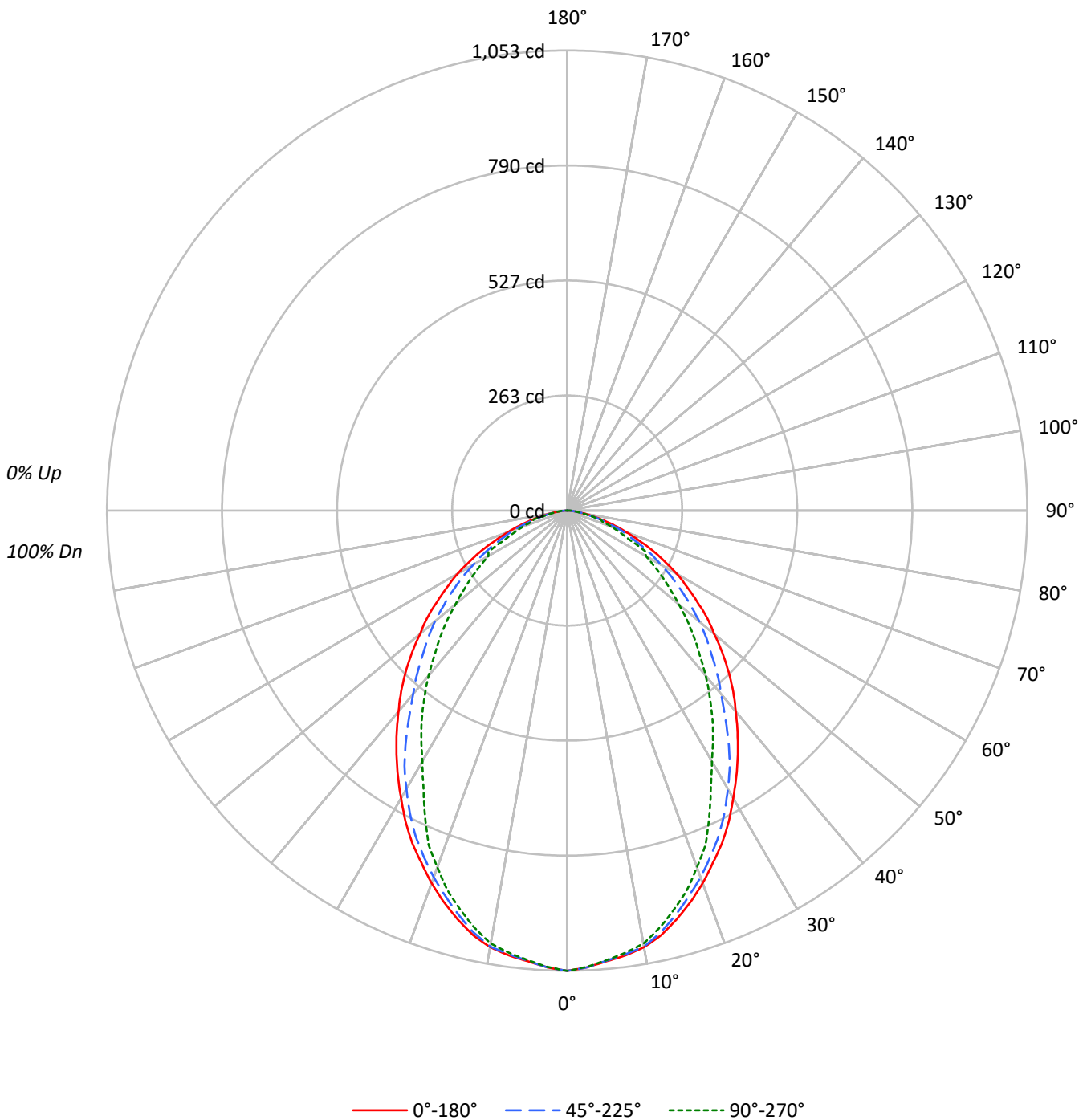
Lumens per Lamp: N/A  
Luminaire Lumens: 2068.0 lumens  
Efficiency: N/A  
Efficacy: 88.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5669	5669	5669
5°	5592	5586	5579
10°	5544	5537	5497
15°	5395	5340	5265
20°	5196	5113	4973
25°	4983	4874	4571
30°	4722	4571	4117
35°	4473	4225	3809
40°	4218	3850	3465
45°	3976	3559	3133
50°	3681	3304	2794
55°	3405	2994	2502
60°	3119	2674	2241
65°	2746	2342	1985
70°	2261	2050	1687
75°	1799	1570	1647
80°	1209	1131	1057
85°	753	902	1050

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3976 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.1	4.7
10°-20°	269.1	13.0
20°-30°	372.6	18.0
30°-40°	397.3	19.2
40°-50°	362.4	17.5
50°-60°	283.9	13.7
60°-70°	185.1	8.9
70°-80°	82.0	4.0
80°-90°	17.6	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°	739.7	35.8
0°-40°	1137.0	55.0
0°-60°	1783.4	86.2
0°-90°	2068.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2068.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1053	1053	1053	1053	1053	
5°	1035	1034	1034	1033	1033	98
15°	968	968	958	949	945	272
25°	839	834	821	792	770	385
35°	681	676	643	594	580	426
45°	522	512	468	429	412	402
55°	363	352	319	281	267	326
65°	216	203	184	188	156	212
75°	86	80	76	72	79	93
85°	12	13	15	16	17	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1053.4	1053.4	1053.4	1053.4	1053.4
2.5°	1046.1	1046.1	1046.1	1044.9	1044.9
5°	1035.1	1033.9	1033.9	1032.7	1032.7
7.5°	1026.6	1025.4	1024.2	1023.0	1020.5
10°	1014.4	1014.4	1013.2	1007.1	1005.9
12.5°	995.0	993.7	988.9	980.3	977.9
15°	968.2	968.2	958.4	948.7	945.0
17.5°	938.9	937.7	925.5	915.8	910.9
20°	907.3	904.8	892.7	876.8	868.3
22.5°	872.0	872.0	857.3	836.6	828.1
25°	839.1	834.2	820.8	791.6	769.7
27.5°	801.3	794.0	779.4	738.0	712.4
30°	759.9	756.3	735.6	682.0	662.5
32.5°	720.9	714.9	692.9	636.9	621.1
35°	680.8	675.9	643.0	594.3	579.7
37.5°	640.6	634.5	593.1	554.1	535.8
40°	600.4	593.1	548.0	512.7	493.2
42.5°	562.6	552.9	509.0	471.3	449.4
45°	522.4	511.5	467.6	428.7	411.6
47.5°	482.3	472.5	432.3	392.1	372.7
50°	439.6	431.1	394.6	354.4	333.7
52.5°	404.3	390.9	355.6	315.4	298.4
55°	362.9	351.9	319.1	281.3	266.7
57.5°	325.2	314.2	283.8	248.4	236.3
60°	289.8	274.0	248.4	218.0	208.2
62.5°	250.9	238.7	216.8	191.2	203.4
65°	215.6	203.4	183.9	187.5	155.9
67.5°	176.6	170.5	153.4	136.4	131.5
70°	143.7	136.4	130.3	112.0	107.2
72.5°	114.5	107.2	98.6	88.9	85.2
75°	86.5	80.4	75.5	71.9	79.2
77.5°	59.7	57.2	53.6	49.9	48.7
80°	39.0	37.8	36.5	35.3	34.1
82.5°	23.1	23.1	23.1	23.1	23.1
85°	12.2	13.4	14.6	15.8	17.0
87.5°	7.3	7.3	8.5	9.7	11.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)