

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: P560441

Luminaire Tested: FSR-12-2-LD4-2LO-40-UNV-80-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560441  
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-40-UNV-80-88-EDD  
Description: 1X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

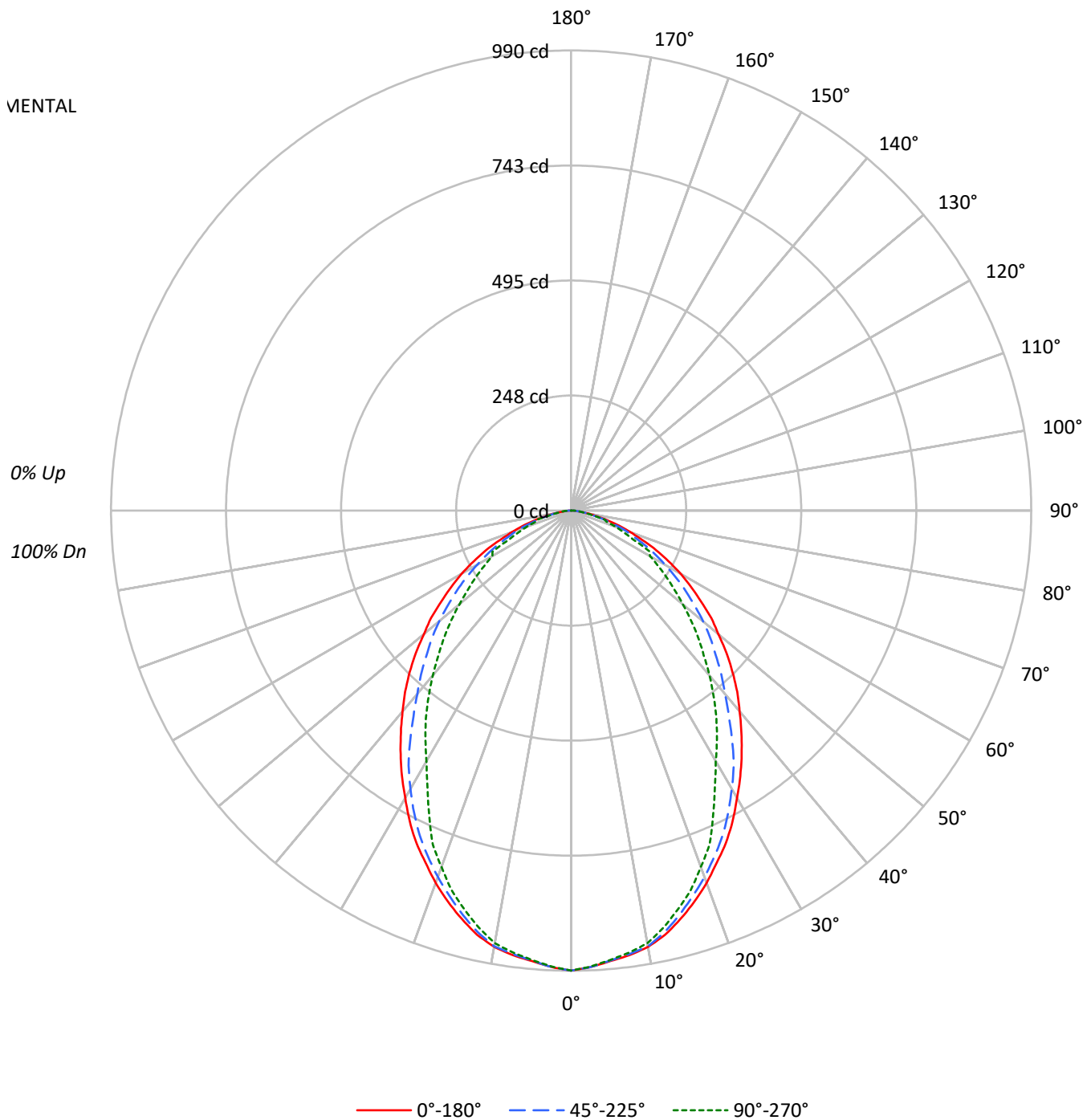
Lumens per Lamp: N/A  
Luminaire Lumens: 1943.0 lumens  
Efficiency: N/A  
Efficacy: 83.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P560441

CATALOG NUMBER: FSR-12-2-LD4-2LO-40-UNV-80-88-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P560441

CATALOG NUMBER: FSR-12-2-LD4-2LO-40-UNV-80-88-EDD

**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°	5327	5327	5327
5°	5254	5248	5242
10°	5209	5203	5165
15°	5068	5017	4947
20°	4882	4804	4672
25°	4682	4580	4294
30°	4437	4295	3868
35°	4202	3969	3578
40°	3963	3618	3256
45°	3736	3344	2943
50°	3459	3104	2625
55°	3200	2813	2351
60°	2931	2512	2106
65°	2579	2201	1866
70°	2124	1926	1585
75°	1688	1474	1547
80°	1134	1063	992
85°	704	846	988

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3736 cd/sqm



TEST NUMBER: P560441

CATALOG NUMBER: FSR-12-2-LD4-2LO-40-UNV-80-88-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.1	4.7
10°-20°	252.8	13.0
20°-30°	350.1	18.0
30°-40°	373.2	19.2
40°-50°	340.5	17.5
50°-60°	266.8	13.7
60°-70°	173.9	8.9
70°-80°	77.0	4.0
80°-90°	16.5	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°	695.0	35.8
0°-40°	1068.3	55.0
0°-60°	1675.6	86.2
0°-90°	1943.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1943.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	990	990	990	990	990	
5°	973	971	971	970	970	92
15°	910	910	900	891	888	256
25°	788	784	771	744	723	362
35°	640	635	604	558	545	400
45°	491	481	439	403	387	378
55°	341	331	300	264	251	306
65°	202	191	173	176	146	200
75°	81	76	71	68	74	87
85°	11	13	14	15	16	16
90°	0	0	0	0	0	



TEST NUMBER: P560441

CATALOG NUMBER: FSR-12-2-LD4-2LO-40-UNV-80-88-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	989.7	989.7	989.7	989.7	989.7
2.5°	982.9	982.9	982.9	981.7	981.7
5°	972.6	971.4	971.4	970.3	970.3
7.5°	964.6	963.4	962.3	961.1	958.8
10°	953.1	953.1	952.0	946.3	945.1
12.5°	934.8	933.7	929.1	921.1	918.8
15°	909.6	909.6	900.5	891.3	887.9
17.5°	882.2	881.0	869.6	860.4	855.9
20°	852.4	850.1	838.7	823.8	815.8
22.5°	819.3	819.3	805.5	786.1	778.1
25°	788.4	783.8	771.2	743.7	723.1
27.5°	752.9	746.0	732.3	693.4	669.4
30°	714.0	710.6	691.1	640.8	622.4
32.5°	677.4	671.6	651.1	598.4	583.5
35°	639.6	635.0	604.1	558.4	544.6
37.5°	601.9	596.1	557.2	520.6	503.5
40°	564.1	557.2	514.9	481.7	463.4
42.5°	528.6	519.5	478.3	442.8	422.2
45°	490.9	480.6	439.4	402.8	386.7
47.5°	453.1	444.0	406.2	368.4	350.1
50°	413.1	405.0	370.7	333.0	313.5
52.5°	379.9	367.3	334.1	296.3	280.3
55°	341.0	330.7	299.8	264.3	250.6
57.5°	305.5	295.2	266.6	233.4	222.0
60°	272.3	257.4	233.4	204.8	195.7
62.5°	235.7	224.3	203.7	179.6	191.1
65°	202.5	191.1	172.8	176.2	146.5
67.5°	165.9	160.2	144.2	128.2	123.6
70°	135.0	128.2	122.4	105.3	100.7
72.5°	107.6	100.7	92.7	83.5	80.1
75°	81.2	75.5	70.9	67.5	74.4
77.5°	56.1	53.8	50.3	46.9	45.8
80°	36.6	35.5	34.3	33.2	32.0
82.5°	21.7	21.7	21.7	21.7	21.7
85°	11.4	12.6	13.7	14.9	16.0
87.5°	6.9	6.9	8.0	9.2	10.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)