

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: P560364

Luminaire Tested: FSR-12-2-LD4-2HI-50-UNV-93-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560364  
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-LD4-2HI-50-UNV-93-96-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

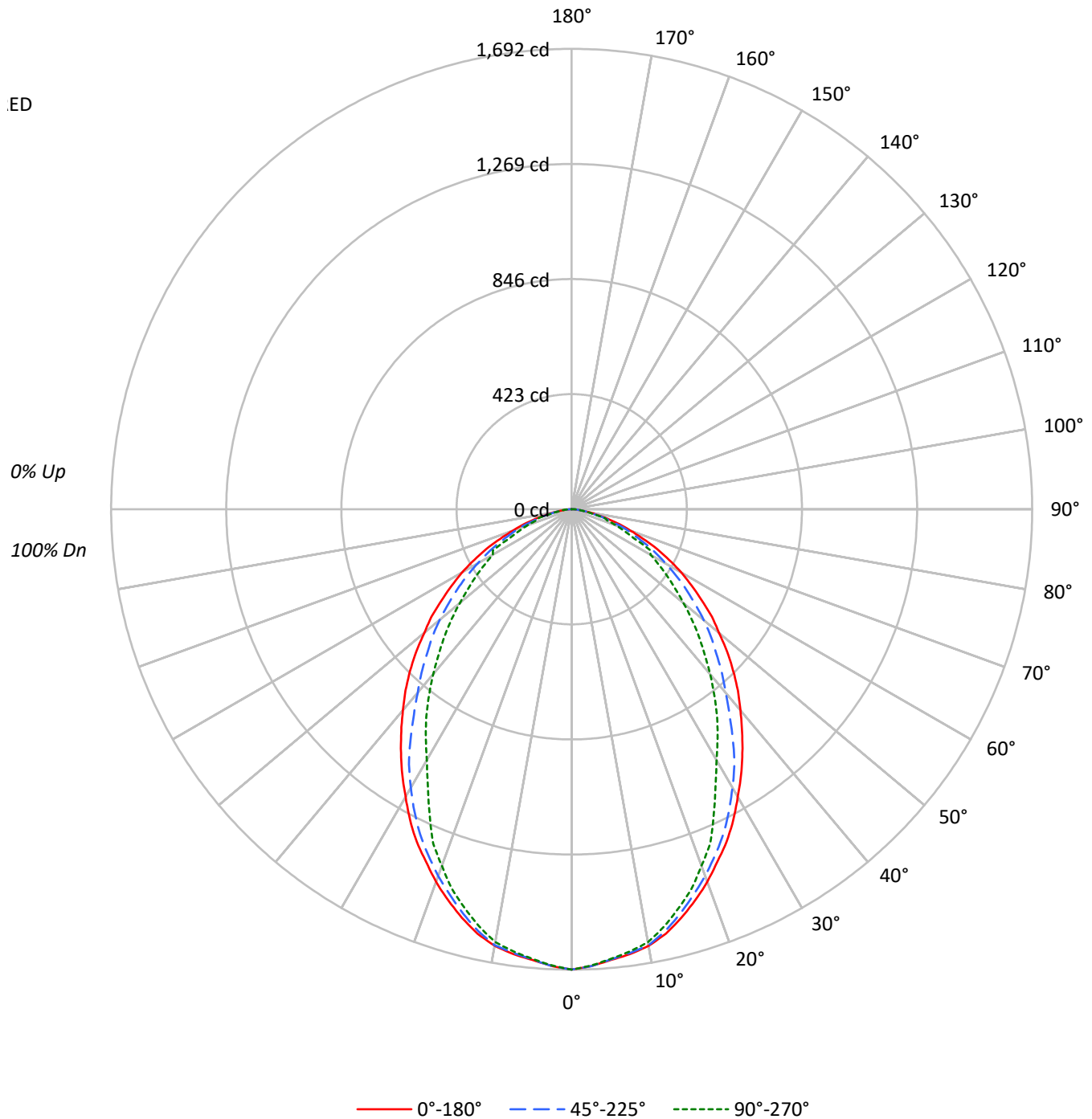
Lumens per Lamp: N/A  
Luminaire Lumens: 3321.0 lumens  
Efficiency: N/A  
Efficacy: 76.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P560364

CATALOG NUMBER: FSR-12-2-LD4-2HI-50-UNV-93-96-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P560364

CATALOG NUMBER: FSR-12-2-LD4-2HI-50-UNV-93-96-EDD-90

**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°	9105	9105	9105
5°	8981	8970	8960
10°	8903	8892	8828
15°	8663	8576	8456
20°	8345	8210	7986
25°	8002	7827	7340
30°	7584	7341	6612
35°	7182	6784	6116
40°	6774	6183	5565
45°	6386	5716	5031
50°	5911	5305	4487
55°	5469	4808	4019
60°	5011	4295	3599
65°	4409	3761	3188
70°	3632	3294	2708
75°	2888	2522	2643
80°	1940	1819	1698
85°	1210	1451	1692

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6386 cd/sqm



TEST NUMBER: P560364

CATALOG NUMBER: FSR-12-2-LD4-2HI-50-UNV-93-96-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.5	4.7
10°-20°	432.2	13.0
20°-30°	598.3	18.0
30°-40°	638.0	19.2
40°-50°	582.0	17.5
50°-60°	456.0	13.7
60°-70°	297.2	8.9
70°-80°	131.7	4.0
80°-90°	28.3	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°	1187.9	35.8
0°-40°	1825.9	55.0
0°-60°	2863.9	86.2
0°-90°	3321.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3321.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1692	1692	1692	1692	1692	
5°	1662	1660	1660	1658	1658	158
15°	1555	1555	1539	1524	1518	437
25°	1348	1340	1318	1271	1236	619
35°	1093	1085	1033	954	931	683
45°	839	821	751	688	661	646
55°	583	565	512	452	428	523
65°	346	327	295	301	250	341
75°	139	129	121	115	127	149
85°	20	22	24	25	27	27
90°	0	0	0	0	0	



TEST NUMBER: P560364

CATALOG NUMBER: FSR-12-2-LD4-2HI-50-UNV-93-96-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1691.7	1691.7	1691.7	1691.7	1691.7
2.5°	1679.9	1679.9	1679.9	1678.0	1678.0
5°	1662.3	1660.4	1660.4	1658.4	1658.4
7.5°	1648.6	1646.7	1644.7	1642.8	1638.9
10°	1629.1	1629.1	1627.1	1617.4	1615.4
12.5°	1597.8	1595.8	1588.0	1574.3	1570.4
15°	1554.8	1554.8	1539.1	1523.5	1517.6
17.5°	1507.8	1505.9	1486.3	1470.7	1462.9
20°	1457.0	1453.1	1433.5	1408.1	1394.4
22.5°	1400.3	1400.3	1376.8	1343.6	1329.9
25°	1347.5	1339.6	1318.1	1271.2	1236.0
27.5°	1286.8	1275.1	1251.6	1185.1	1144.1
30°	1220.4	1214.5	1181.2	1095.2	1063.9
32.5°	1157.8	1148.0	1112.8	1022.8	997.4
35°	1093.2	1085.4	1032.6	954.4	930.9
37.5°	1028.7	1018.9	952.4	889.8	860.5
40°	964.2	952.4	880.1	823.3	792.1
42.5°	903.5	887.9	817.5	756.9	721.7
45°	839.0	821.4	751.0	688.4	661.0
47.5°	774.5	758.8	694.3	629.7	598.4
50°	706.0	692.3	633.6	569.1	535.9
52.5°	649.3	627.8	571.1	506.5	479.1
55°	582.8	565.2	512.4	451.8	428.3
57.5°	522.2	504.6	455.7	399.0	379.4
60°	465.5	440.0	399.0	350.1	334.4
62.5°	402.9	383.3	348.1	307.0	326.6
65°	346.2	326.6	295.3	301.2	250.3
67.5°	283.6	273.8	246.4	219.0	211.2
70°	230.8	219.0	209.3	179.9	172.1
72.5°	183.8	172.1	158.4	142.8	136.9
75°	138.9	129.1	121.3	115.4	127.1
77.5°	95.8	91.9	86.1	80.2	78.2
80°	62.6	60.6	58.7	56.7	54.8
82.5°	37.2	37.2	37.2	37.2	37.2
85°	19.6	21.5	23.5	25.4	27.4
87.5°	11.7	11.7	13.7	15.6	17.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)