

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: P561325

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-93-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561325  
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-12-4-LD4-1STD-50-UNV-93-96-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

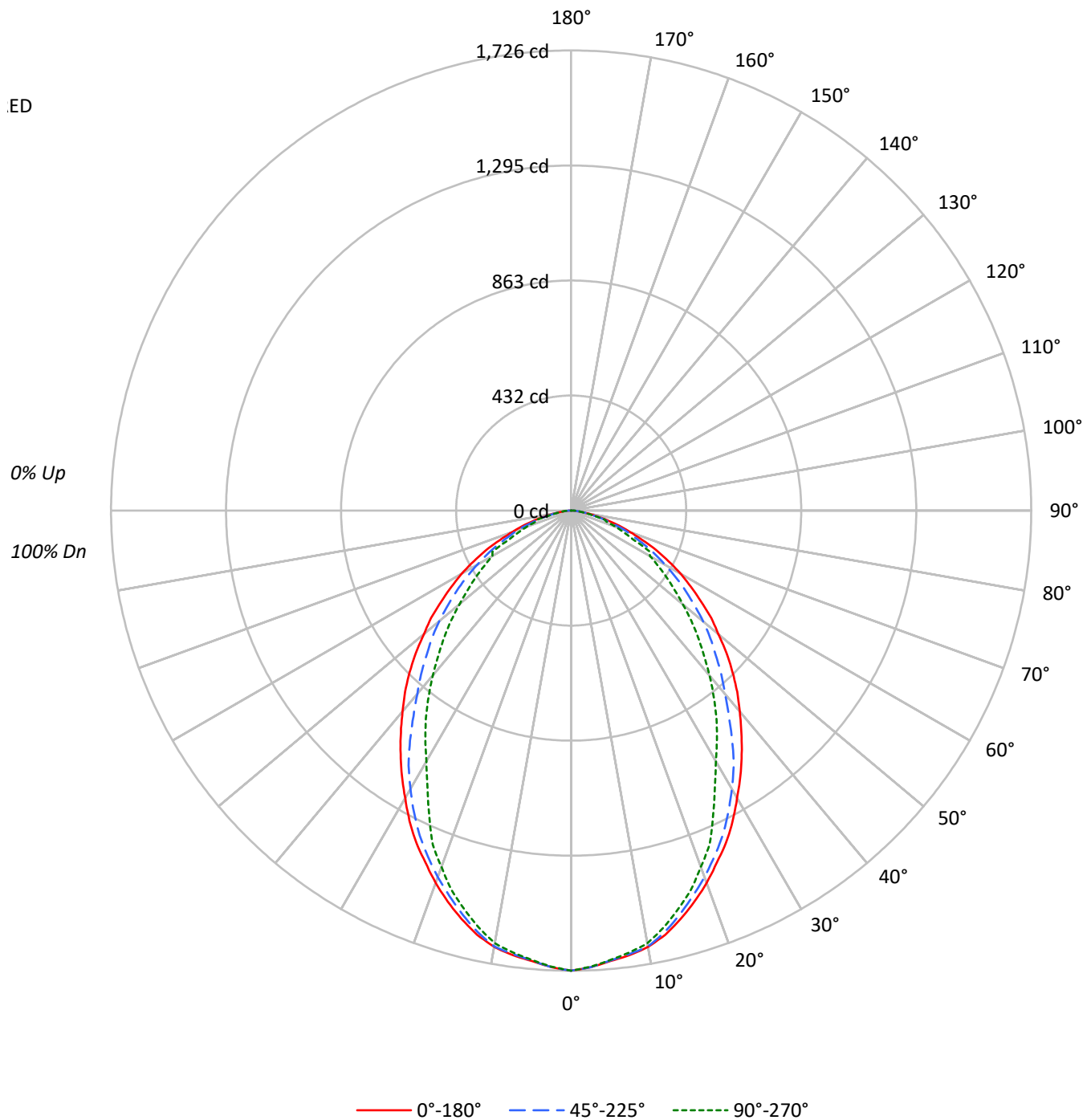
Lumens per Lamp: N/A  
Luminaire Lumens: 3388.0 lumens  
Efficiency: N/A  
Efficacy: 101.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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			
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°	4644	4644	4644
5°	4581	4576	4570
10°	4541	4536	4503
15°	4419	4374	4313
20°	4257	4188	4074
25°	4082	3993	3744
30°	3869	3745	3373
35°	3664	3461	3120
40°	3455	3154	2838
45°	3257	2915	2567
50°	3015	2706	2289
55°	2790	2452	2050
60°	2555	2190	1836
65°	2248	1918	1626
70°	1852	1680	1382
75°	1473	1286	1349
80°	989	928	866
85°	618	738	861

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3257 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.6	4.7
10°-20°	440.9	13.0
20°-30°	610.4	18.0
30°-40°	650.8	19.2
40°-50°	593.8	17.5
50°-60°	465.2	13.7
60°-70°	303.2	8.9
70°-80°	134.3	4.0
80°-90°	28.8	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°	1211.9	35.8
0°-40°	1862.8	55.0
0°-60°	2921.7	86.2
0°-90°	3388.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3388.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1726	1726	1726	1726	1726	
5°	1696	1694	1694	1692	1692	161
15°	1586	1586	1570	1554	1548	446
25°	1375	1367	1345	1297	1261	631
35°	1115	1107	1053	974	950	697
45°	856	838	766	702	674	659
55°	595	577	523	461	437	533
65°	353	333	301	307	255	348
75°	142	132	124	118	130	152
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1725.8	1725.8	1725.8	1725.8	1725.8
2.5°	1713.8	1713.8	1713.8	1711.8	1711.8
5°	1695.9	1693.9	1693.9	1691.9	1691.9
7.5°	1681.9	1679.9	1677.9	1675.9	1671.9
10°	1662.0	1662.0	1660.0	1650.0	1648.0
12.5°	1630.0	1628.0	1620.1	1606.1	1602.1
15°	1586.1	1586.1	1570.2	1554.2	1548.2
17.5°	1538.3	1536.3	1516.3	1500.4	1492.4
20°	1486.4	1482.4	1462.4	1436.5	1422.5
22.5°	1428.5	1428.5	1404.6	1370.7	1356.7
25°	1374.7	1366.7	1344.7	1296.8	1260.9
27.5°	1312.8	1300.8	1276.9	1209.1	1167.2
30°	1245.0	1239.0	1205.1	1117.3	1085.4
32.5°	1181.1	1171.2	1135.2	1043.5	1017.5
35°	1115.3	1107.3	1053.4	973.6	949.7
37.5°	1049.4	1039.5	971.6	907.8	877.9
40°	983.6	971.6	897.8	840.0	808.0
42.5°	921.8	905.8	834.0	772.1	736.2
45°	855.9	838.0	766.1	702.3	674.4
47.5°	790.1	774.1	708.3	642.4	610.5
50°	720.2	706.3	646.4	580.6	546.7
52.5°	662.4	640.4	582.6	516.7	488.8
55°	594.6	576.6	522.7	460.9	436.9
57.5°	532.7	514.7	464.9	407.0	387.1
60°	474.8	448.9	407.0	357.1	341.2
62.5°	411.0	391.0	355.1	313.2	333.2
65°	353.1	333.2	301.3	307.3	255.4
67.5°	289.3	279.3	251.4	223.5	215.5
70°	235.4	223.5	213.5	183.6	175.6
72.5°	187.5	175.6	161.6	145.6	139.7
75°	141.7	131.7	123.7	117.7	129.7
77.5°	97.8	93.8	87.8	81.8	79.8
80°	63.8	61.8	59.9	57.9	55.9
82.5°	37.9	37.9	37.9	37.9	37.9
85°	20.0	21.9	23.9	25.9	27.9
87.5°	12.0	12.0	14.0	16.0	18.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)