

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: P560803

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-93-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560803  
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-LD4-1HI-35-UNV-93-85-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

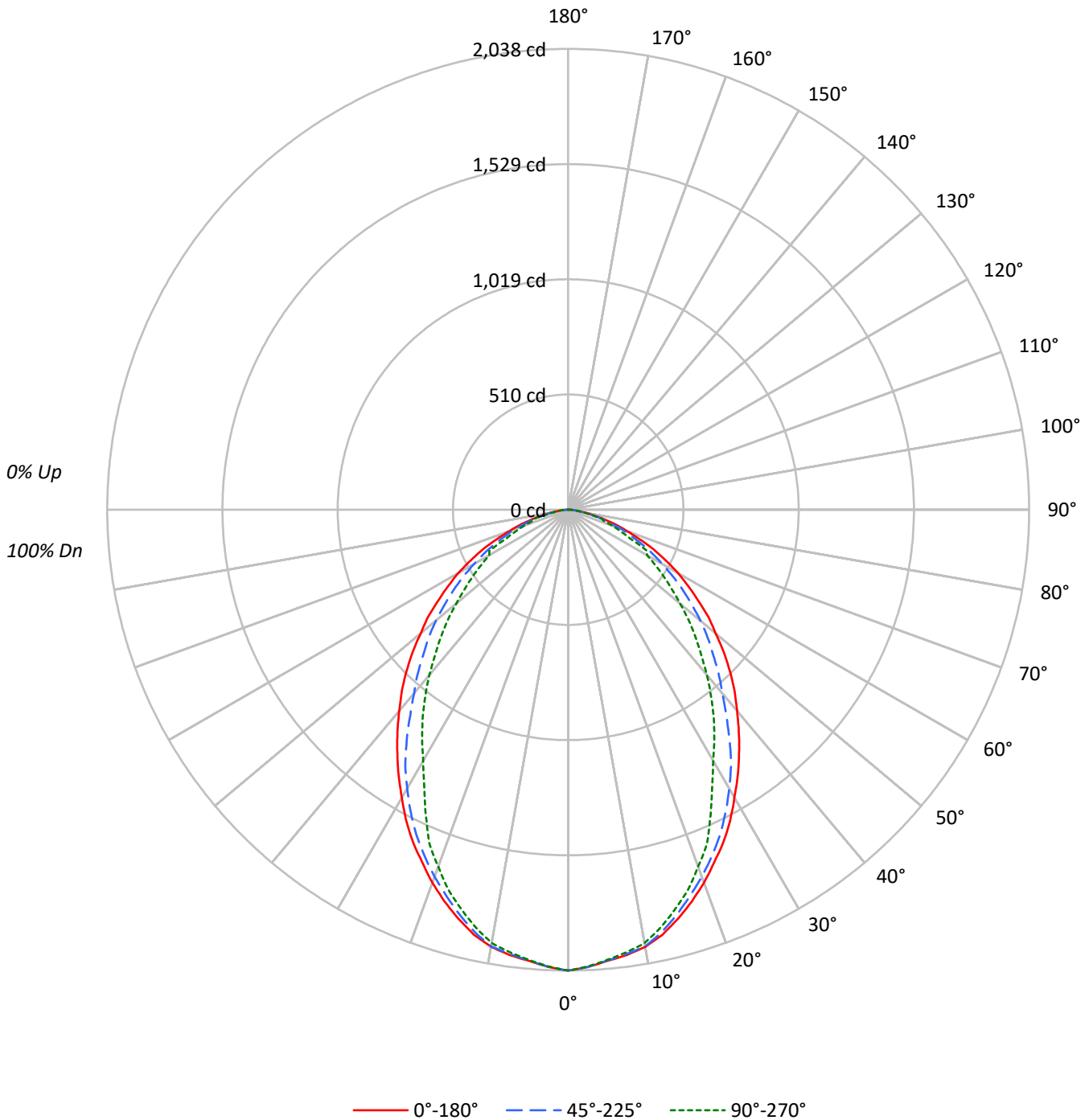
Lumens per Lamp: N/A  
Luminaire Lumens: 4001.0 lumens  
Efficiency: N/A  
Efficacy: 92.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5484	5484	5484
5°	5410	5404	5397
10°	5363	5357	5318
15°	5218	5166	5094
20°	5027	4946	4811
25°	4820	4715	4421
30°	4568	4422	3983
35°	4327	4087	3684
40°	4080	3725	3352
45°	3847	3443	3031
50°	3561	3196	2703
55°	3294	2896	2421
60°	3018	2587	2168
65°	2655	2266	1920
70°	2187	1983	1631
75°	1739	1519	1592
80°	1168	1096	1023
85°	729	874	1019

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3847 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	189.7	4.7
10°-20°	520.7	13.0
20°-30°	720.8	18.0
30°-40°	768.6	19.2
40°-50°	701.2	17.5
50°-60°	549.3	13.7
60°-70°	358.0	8.9
70°-80°	158.6	4.0
80°-90°	34.1	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°	1431.2	35.8
0°-40°	2199.8	55.0
0°-60°	3450.3	86.2
0°-90°	4001.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4001.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2038	2038	2038	2038	2038	
5°	2003	2000	2000	1998	1998	190
15°	1873	1873	1854	1835	1828	527
25°	1623	1614	1588	1532	1489	745
35°	1317	1308	1244	1150	1122	823
45°	1011	990	905	829	796	779
55°	702	681	617	544	516	630
65°	417	394	356	363	302	411
75°	167	156	146	139	153	179
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2038.1	2038.1	2038.1	2038.1	2038.1
2.5°	2023.9	2023.9	2023.9	2021.6	2021.6
5°	2002.7	2000.4	2000.4	1998.0	1998.0
7.5°	1986.2	1983.9	1981.5	1979.2	1974.4
10°	1962.7	1962.7	1960.3	1948.5	1946.2
12.5°	1925.0	1922.6	1913.2	1896.7	1892.0
15°	1873.1	1873.1	1854.3	1835.4	1828.4
17.5°	1816.6	1814.2	1790.7	1771.8	1762.4
20°	1755.3	1750.6	1727.0	1696.4	1679.9
22.5°	1687.0	1687.0	1658.7	1618.7	1602.2
25°	1623.4	1614.0	1588.0	1531.5	1489.1
27.5°	1550.3	1536.2	1507.9	1427.8	1378.3
30°	1470.2	1463.2	1423.1	1319.4	1281.7
32.5°	1394.8	1383.1	1340.6	1232.3	1201.6
35°	1317.1	1307.7	1244.0	1149.8	1121.5
37.5°	1239.3	1227.5	1147.4	1072.0	1036.7
40°	1161.6	1147.4	1060.3	991.9	954.2
42.5°	1088.5	1069.7	984.9	911.8	869.4
45°	1010.8	989.6	904.8	829.4	796.4
47.5°	933.0	914.2	836.4	758.7	721.0
50°	850.6	834.1	763.4	685.6	645.6
52.5°	782.2	756.3	688.0	610.2	577.3
55°	702.1	680.9	617.3	544.3	516.0
57.5°	629.1	607.9	549.0	480.7	457.1
60°	560.8	530.1	480.7	421.7	402.9
62.5°	485.4	461.8	419.4	369.9	393.5
65°	417.0	393.5	355.8	362.8	301.6
67.5°	341.6	329.9	296.9	263.9	254.5
70°	278.0	263.9	252.1	216.8	207.3
72.5°	221.5	207.3	190.8	172.0	164.9
75°	167.3	155.5	146.1	139.0	153.1
77.5°	115.5	110.7	103.7	96.6	94.2
80°	75.4	73.0	70.7	68.3	66.0
82.5°	44.8	44.8	44.8	44.8	44.8
85°	23.6	25.9	28.3	30.6	33.0
87.5°	14.1	14.1	16.5	18.8	21.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)