

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: P563850

Luminaire Tested: FSR-24-4-LD4-4LO-35-UNV-81-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563850  
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-24-4-LD4-4LO-35-UNV-81-94-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

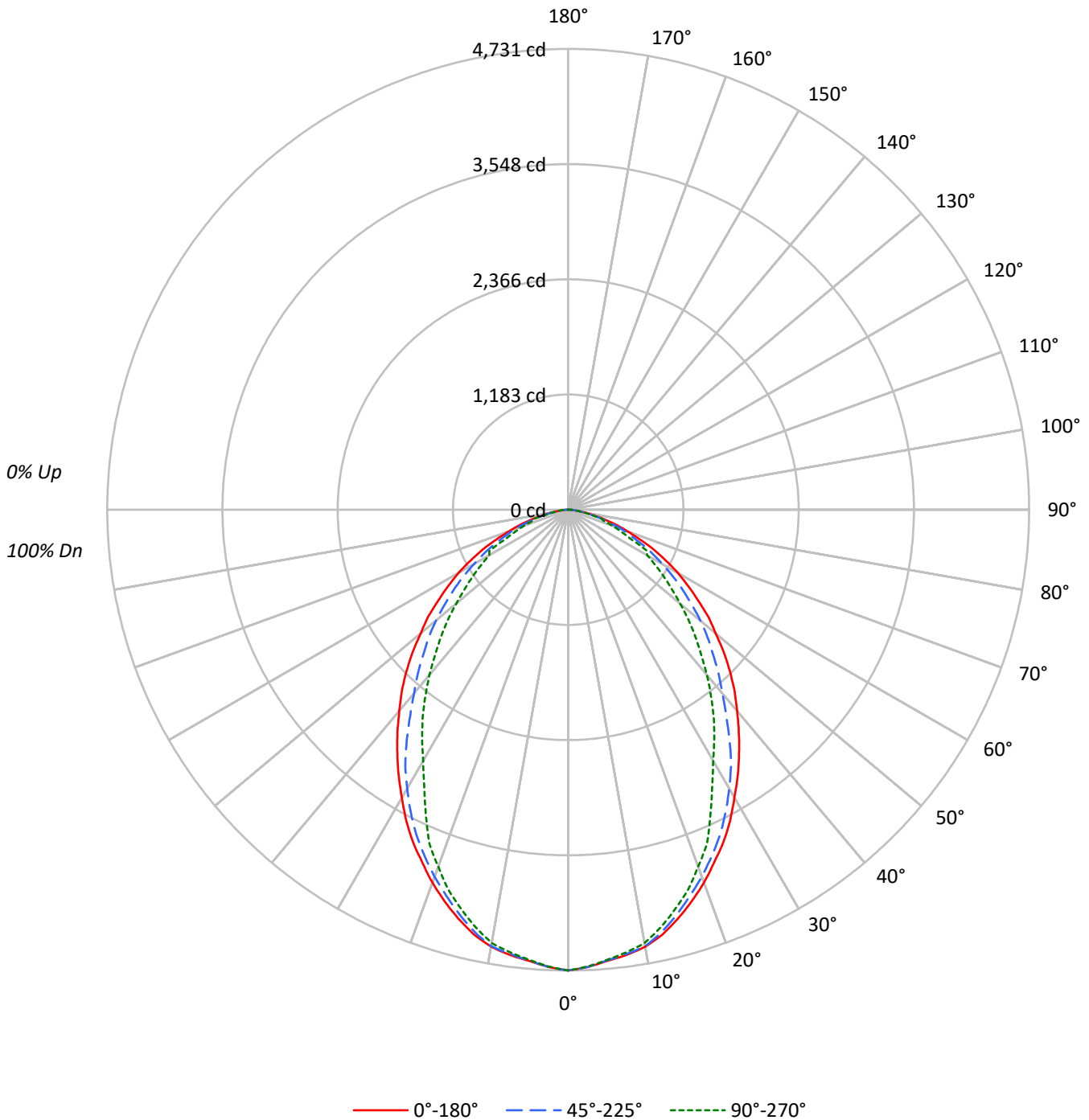
Lumens per Lamp: N/A  
Luminaire Lumens: 9287.0 lumens  
Efficiency: N/A  
Efficacy: 99.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	6365	6365	6365
5°	6279	6271	6264
10°	6224	6217	6172
15°	6056	5995	5912
20°	5834	5740	5583
25°	5594	5472	5131
30°	5302	5132	4622
35°	5022	4743	4276
40°	4736	4323	3890
45°	4464	3996	3517
50°	4133	3709	3137
55°	3823	3361	2810
60°	3503	3002	2517
65°	3082	2629	2229
70°	2539	2302	1893
75°	2019	1763	1848
80°	1356	1272	1186
85°	844	1013	1183

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4464 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	440.4	4.7
10°-20°	1208.5	13.0
20°-30°	1673.1	18.0
30°-40°	1784.1	19.2
40°-50°	1627.6	17.5
50°-60°	1275.1	13.7
60°-70°	831.0	8.9
70°-80°	368.2	4.0
80°-90°	79.1	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°	3322.0	35.8
0°-40°	5106.1	55.0
0°-60°	8008.7	86.2
0°-90°	9287.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9287.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4731	4731	4731	4731	4731	
5°	4649	4643	4643	4638	4638	441
15°	4348	4348	4304	4260	4244	1222
25°	3768	3746	3686	3555	3456	1730
35°	3057	3035	2888	2669	2603	1911
45°	2346	2297	2100	1925	1848	1807
55°	1630	1580	1433	1263	1198	1462
65°	968	913	826	842	700	954
75°	388	361	339	323	356	416
85°	55	60	66	71	77	76
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4730.7	4730.7	4730.7	4730.7	4730.7
2.5°	4697.9	4697.9	4697.9	4692.4	4692.4
5°	4648.6	4643.2	4643.2	4637.7	4637.7
7.5°	4610.4	4604.9	4599.4	4593.9	4583.0
10°	4555.7	4555.7	4550.2	4522.9	4517.4
12.5°	4468.2	4462.7	4440.8	4402.5	4391.6
15°	4347.8	4347.8	4304.1	4260.3	4243.9
17.5°	4216.6	4211.1	4156.4	4112.7	4090.8
20°	4074.4	4063.5	4008.8	3937.7	3899.4
22.5°	3915.8	3915.8	3850.2	3757.2	3718.9
25°	3768.1	3746.3	3686.1	3554.8	3456.4
27.5°	3598.6	3565.8	3500.2	3314.2	3199.4
30°	3412.6	3396.2	3303.3	3062.6	2975.1
32.5°	3237.6	3210.3	3111.9	2860.3	2789.2
35°	3057.2	3035.3	2887.6	2668.9	2603.2
37.5°	2876.7	2849.3	2663.4	2488.4	2406.4
40°	2696.2	2663.4	2461.0	2302.4	2214.9
42.5°	2526.7	2482.9	2286.0	2116.5	2018.1
45°	2346.2	2297.0	2100.1	1925.1	1848.5
47.5°	2165.7	2122.0	1941.5	1761.0	1673.5
50°	1974.3	1936.0	1772.0	1591.5	1498.5
52.5°	1815.7	1755.5	1596.9	1416.5	1339.9
55°	1629.8	1580.5	1432.9	1263.3	1197.7
57.5°	1460.2	1411.0	1274.3	1115.7	1061.0
60°	1301.6	1230.5	1115.7	978.9	935.2
62.5°	1126.6	1071.9	973.5	858.6	913.3
65°	968.0	913.3	825.8	842.2	700.0
67.5°	793.0	765.7	689.1	612.5	590.7
70°	645.3	612.5	585.2	503.1	481.3
72.5°	514.1	481.3	443.0	399.2	382.8
75°	388.3	361.0	339.1	322.7	355.5
77.5°	268.0	257.0	240.6	224.2	218.8
80°	175.0	169.5	164.1	158.6	153.1
82.5°	103.9	103.9	103.9	103.9	103.9
85°	54.7	60.2	65.6	71.1	76.6
87.5°	32.8	32.8	38.3	43.8	49.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)