

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: P562565

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-81-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562565  
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-LD4-2HI-40-UNV-81-86-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

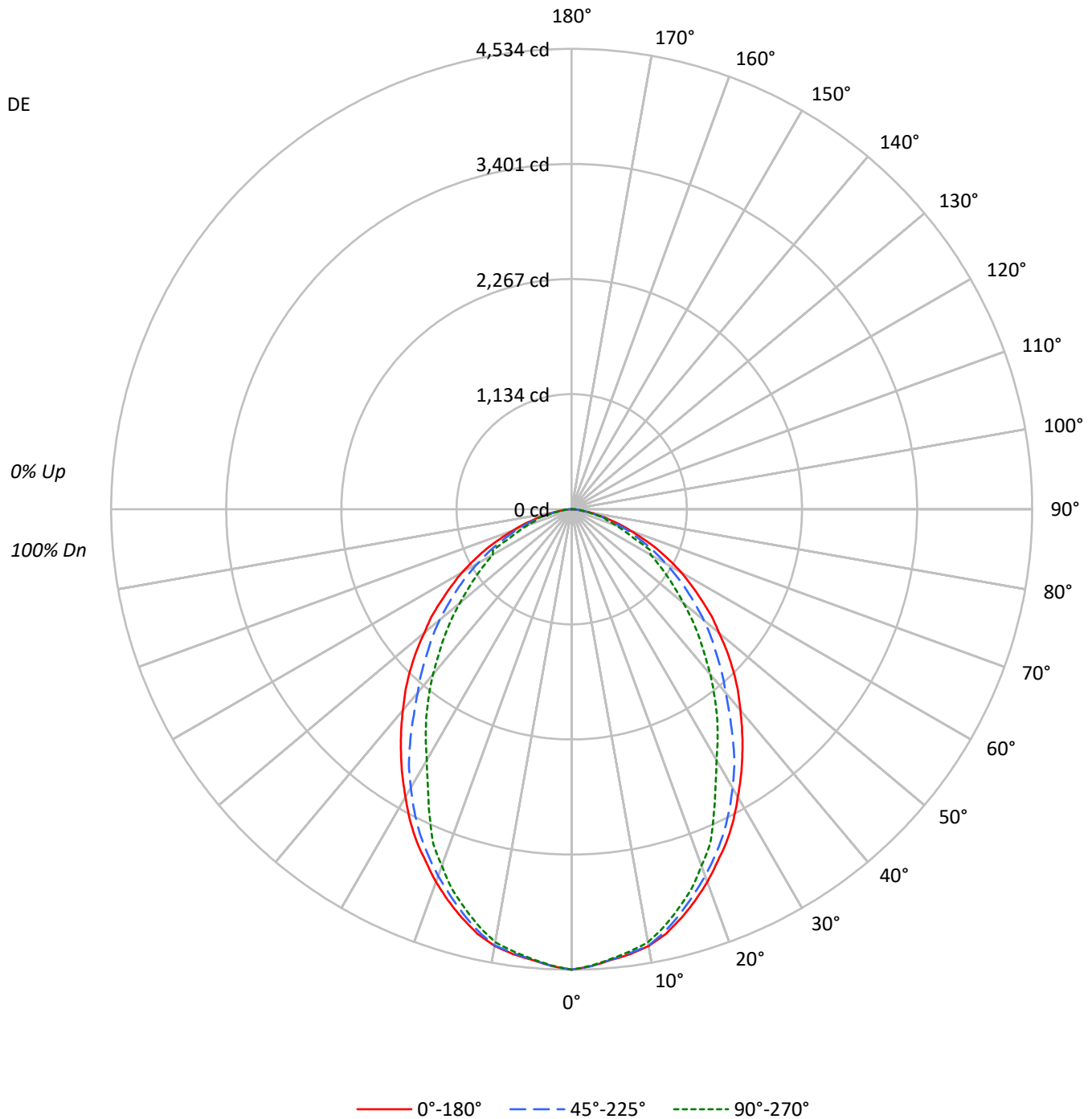
Lumens per Lamp: N/A  
Luminaire Lumens: 8901.0 lumens  
Efficiency: N/A  
Efficacy: 103.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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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				
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°	6101	6101	6101
5°	6018	6011	6003
10°	5965	5958	5915
15°	5805	5746	5666
20°	5591	5501	5351
25°	5362	5245	4918
30°	5082	4919	4430
35°	4813	4546	4098
40°	4539	4143	3729
45°	4279	3830	3371
50°	3961	3555	3006
55°	3664	3221	2693
60°	3357	2877	2412
65°	2954	2520	2136
70°	2433	2207	1815
75°	1935	1690	1771
80°	1299	1219	1137
85°	809	971	1133

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4279 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	422.1	4.7
10°-20°	1158.3	13.0
20°-30°	1603.6	18.0
30°-40°	1709.9	19.2
40°-50°	1559.9	17.5
50°-60°	1222.1	13.7
60°-70°	796.5	8.9
70°-80°	352.9	4.0
80°-90°	75.8	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°	3184.0	35.8
0°-40°	4893.9	55.0
0°-60°	7675.9	86.2
0°-90°	8901.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8901.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4534	4534	4534	4534	4534	
5°	4455	4450	4450	4445	4445	423
15°	4167	4167	4125	4083	4068	1171
25°	3612	3590	3533	3407	3313	1658
35°	2930	2909	2768	2558	2495	1832
45°	2249	2202	2013	1845	1772	1732
55°	1562	1515	1373	1211	1148	1401
65°	928	875	792	807	671	914
75°	372	346	325	309	341	399
85°	52	58	63	68	73	73
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4534.1	4534.1	4534.1	4534.1	4534.1
2.5°	4502.6	4502.6	4502.6	4497.4	4497.4
5°	4455.4	4450.2	4450.2	4444.9	4444.9
7.5°	4418.7	4413.5	4408.3	4403.0	4392.5
10°	4366.3	4366.3	4361.1	4334.9	4329.6
12.5°	4282.4	4277.2	4256.2	4219.5	4209.1
15°	4167.1	4167.1	4125.2	4083.3	4067.5
17.5°	4041.3	4036.1	3983.7	3941.7	3920.8
20°	3905.0	3894.6	3842.1	3774.0	3737.3
22.5°	3753.0	3753.0	3690.1	3601.0	3564.3
25°	3611.5	3590.5	3532.9	3407.1	3312.7
27.5°	3449.0	3417.6	3354.7	3176.5	3066.4
30°	3270.8	3255.1	3166.0	2935.3	2851.5
32.5°	3103.1	3076.9	2982.5	2741.4	2673.3
35°	2930.1	2909.1	2767.6	2557.9	2495.0
37.5°	2757.1	2730.9	2552.7	2385.0	2306.3
40°	2584.1	2552.7	2358.8	2206.7	2122.9
42.5°	2421.7	2379.7	2191.0	2028.5	1934.2
45°	2248.7	2201.5	2012.8	1845.1	1771.7
47.5°	2075.7	2033.8	1860.8	1687.8	1604.0
50°	1892.2	1855.6	1698.3	1525.3	1436.2
52.5°	1740.2	1682.6	1530.6	1357.6	1284.2
55°	1562.0	1514.8	1373.3	1210.8	1147.9
57.5°	1399.5	1352.4	1221.3	1069.3	1016.9
60°	1247.5	1179.4	1069.3	938.3	896.3
62.5°	1079.8	1027.4	933.0	822.9	875.4
65°	927.8	875.4	791.5	807.2	670.9
67.5°	760.0	733.8	660.5	587.1	566.1
70°	618.5	587.1	560.9	482.2	461.3
72.5°	492.7	461.3	424.6	382.6	366.9
75°	372.2	346.0	325.0	309.3	340.7
77.5°	256.8	246.4	230.6	214.9	209.7
80°	167.7	162.5	157.3	152.0	146.8
82.5°	99.6	99.6	99.6	99.6	99.6
85°	52.4	57.7	62.9	68.1	73.4
87.5°	31.5	31.5	36.7	41.9	47.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)