

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: P562637

Luminaire Tested: FSR-24-4-LD4-2HI-50-UNV-81-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562637  
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-50-UNV-81-96-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

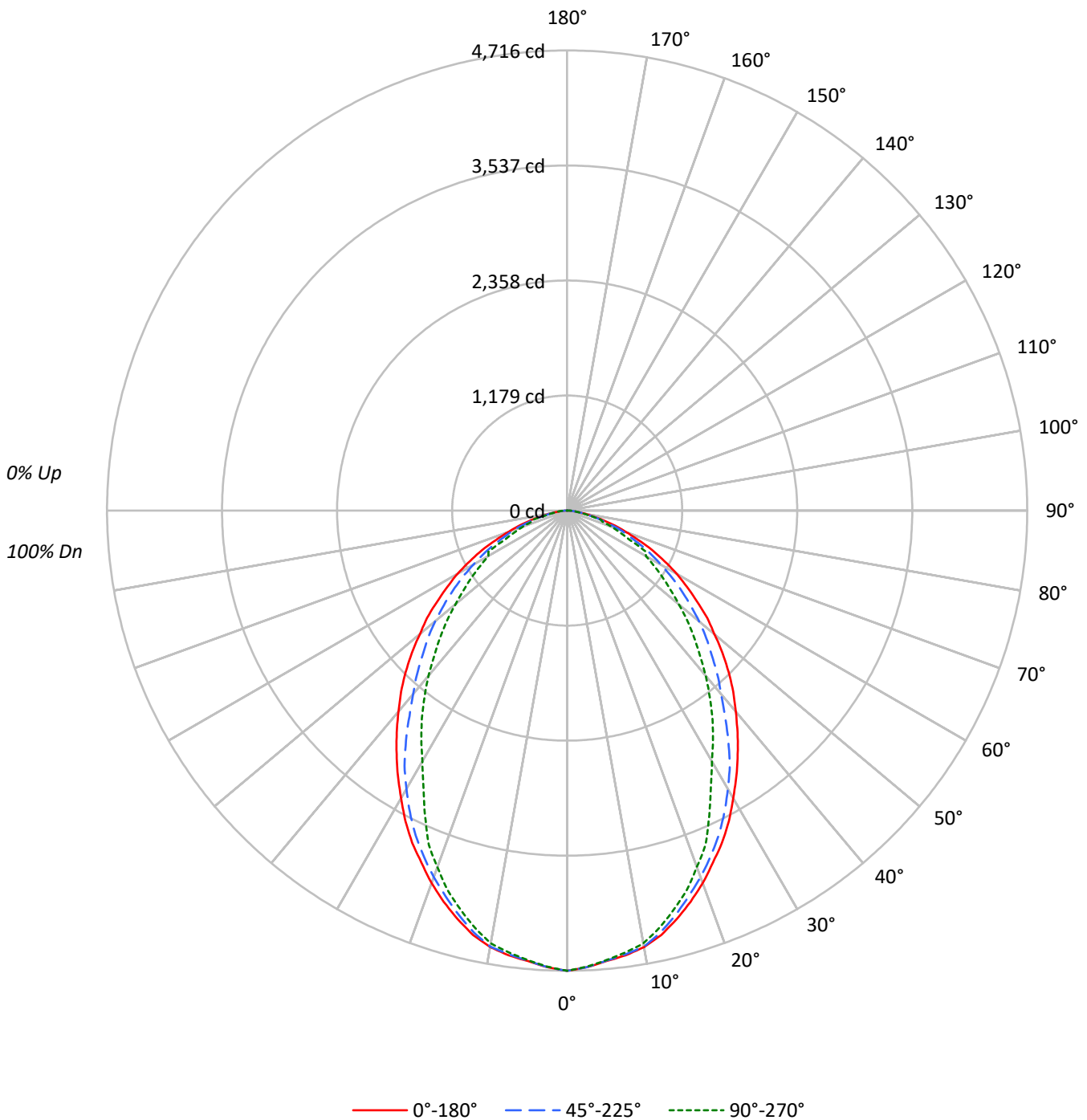
Lumens per Lamp: N/A  
Luminaire Lumens: 9259.0 lumens  
Efficiency: N/A  
Efficacy: 107.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6346	6346	6346
5°	6260	6252	6245
10°	6205	6198	6153
15°	6038	5977	5894
20°	5816	5723	5566
25°	5577	5456	5116
30°	5286	5117	4608
35°	5006	4729	4263
40°	4721	4310	3879
45°	4451	3984	3507
50°	4120	3698	3127
55°	3811	3351	2801
60°	3492	2993	2509
65°	3073	2621	2222
70°	2531	2295	1888
75°	2012	1758	1842
80°	1352	1268	1183
85°	841	1010	1178

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4451 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	439.0	4.7
10°-20°	1204.9	13.0
20°-30°	1668.1	18.0
30°-40°	1778.7	19.2
40°-50°	1622.7	17.5
50°-60°	1271.2	13.7
60°-70°	828.5	8.9
70°-80°	367.1	4.0
80°-90°	78.8	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°	3312.0	35.8
0°-40°	5090.7	55.0
0°-60°	7984.6	86.2
0°-90°	9259.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9259.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4716	4716	4716	4716	4716	
5°	4635	4629	4629	4624	4624	440
15°	4335	4335	4291	4248	4231	1219
25°	3757	3735	3675	3544	3446	1725
35°	3048	3026	2879	2661	2595	1906
45°	2339	2290	2094	1919	1843	1802
55°	1625	1576	1429	1260	1194	1457
65°	965	911	823	840	698	951
75°	387	360	338	322	354	415
85°	54	60	65	71	76	76
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4716.4	4716.4	4716.4	4716.4	4716.4
2.5°	4683.7	4683.7	4683.7	4678.2	4678.2
5°	4634.6	4629.2	4629.2	4623.7	4623.7
7.5°	4596.5	4591.0	4585.6	4580.1	4569.2
10°	4541.9	4541.9	4536.5	4509.2	4503.8
12.5°	4454.7	4449.2	4427.4	4389.3	4378.4
15°	4334.7	4334.7	4291.1	4247.5	4231.1
17.5°	4203.9	4198.4	4143.9	4100.3	4078.5
20°	4062.1	4051.2	3996.7	3925.8	3887.6
22.5°	3904.0	3904.0	3838.6	3745.9	3707.7
25°	3756.8	3735.0	3675.0	3544.1	3446.0
27.5°	3587.7	3555.0	3489.6	3304.2	3189.7
30°	3402.4	3386.0	3293.3	3053.4	2966.2
32.5°	3227.9	3200.6	3102.5	2851.7	2780.8
35°	3047.9	3026.1	2878.9	2660.8	2595.4
37.5°	2868.0	2840.8	2655.4	2480.9	2399.1
40°	2688.1	2655.4	2453.6	2295.5	2208.3
42.5°	2519.1	2475.4	2279.1	2110.1	2012.0
45°	2339.1	2290.0	2093.8	1919.3	1842.9
47.5°	2159.2	2115.6	1935.6	1755.7	1668.5
50°	1968.4	1930.2	1766.6	1586.7	1494.0
52.5°	1810.2	1750.3	1592.1	1412.2	1335.9
55°	1624.8	1575.8	1428.6	1259.5	1194.1
57.5°	1455.8	1406.7	1270.4	1112.3	1057.8
60°	1297.7	1226.8	1112.3	976.0	932.4
62.5°	1123.2	1068.7	970.5	856.0	910.6
65°	965.1	910.6	823.3	839.7	697.9
67.5°	790.6	763.3	687.0	610.7	588.9
70°	643.4	610.7	583.4	501.6	479.8
72.5°	512.5	479.8	441.7	398.0	381.7
75°	387.1	359.9	338.1	321.7	354.4
77.5°	267.2	256.3	239.9	223.6	218.1
80°	174.5	169.0	163.6	158.1	152.7
82.5°	103.6	103.6	103.6	103.6	103.6
85°	54.5	60.0	65.4	70.9	76.3
87.5°	32.7	32.7	38.2	43.6	49.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)