

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: P563916

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563916  
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-40-UNV-81-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

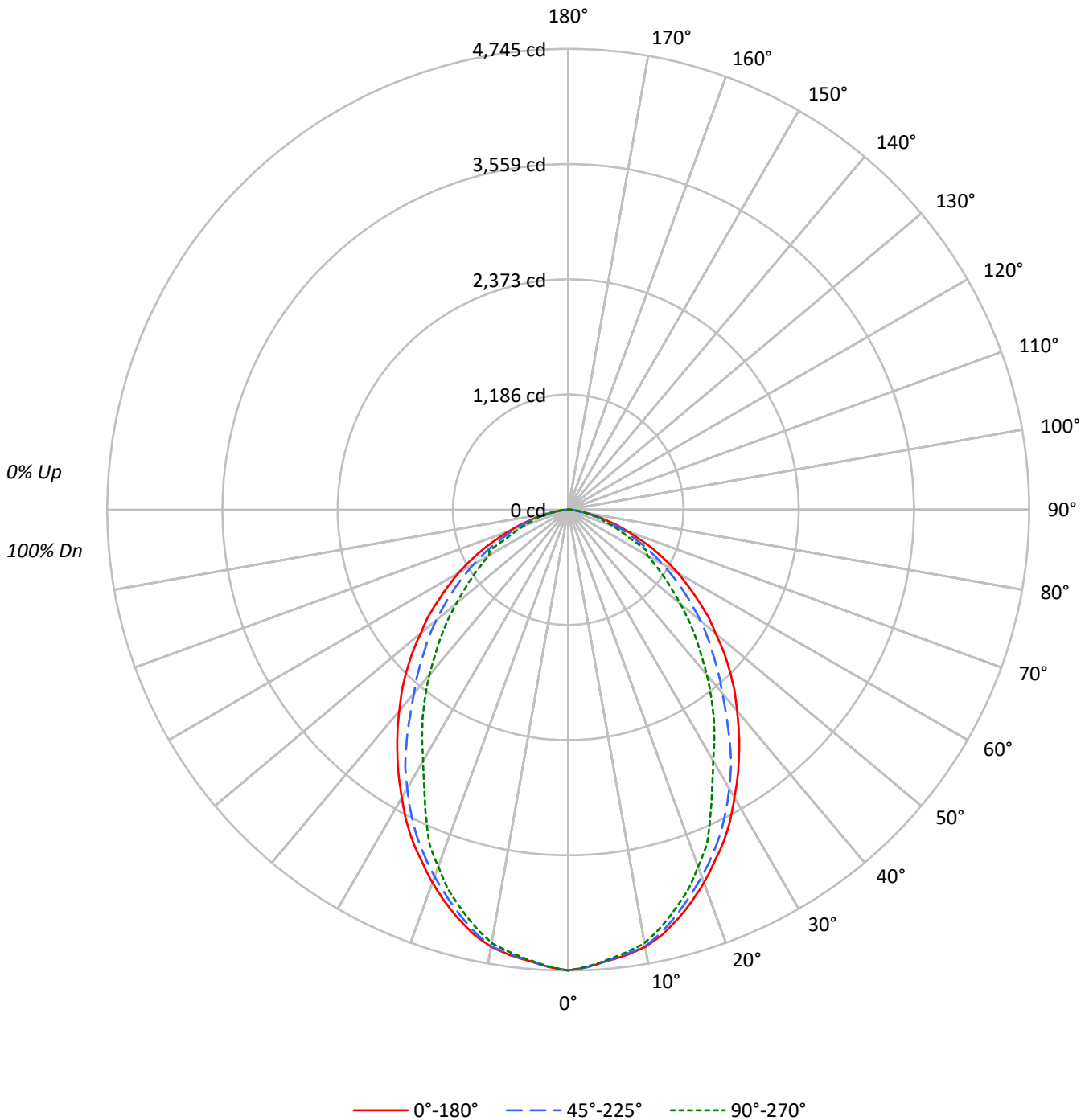
Lumens per Lamp: N/A  
Luminaire Lumens: 9315.0 lumens  
Efficiency: N/A  
Efficacy: 99.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6384	6384	6384
5°	6298	6290	6283
10°	6243	6235	6190
15°	6075	6014	5929
20°	5852	5757	5600
25°	5611	5489	5147
30°	5318	5148	4636
35°	5037	4757	4289
40°	4750	4336	3902
45°	4478	4008	3528
50°	4145	3720	3146
55°	3835	3371	2818
60°	3513	3011	2524
65°	3091	2637	2235
70°	2546	2309	1899
75°	2025	1768	1854
80°	1360	1275	1190
85°	848	1016	1186

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4478 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	441.7	4.7
10°-20°	1212.2	13.0
20°-30°	1678.2	18.0
30°-40°	1789.4	19.2
40°-50°	1632.5	17.5
50°-60°	1278.9	13.7
60°-70°	833.5	8.9
70°-80°	369.3	4.0
80°-90°	79.3	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°	3332.1	35.8
0°-40°	5121.5	55.0
0°-60°	8032.9	86.2
0°-90°	9315.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9315.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4745	4745	4745	4745	4745	
5°	4663	4657	4657	4652	4652	443
15°	4361	4361	4317	4273	4257	1226
25°	3780	3758	3697	3566	3467	1735
35°	3066	3044	2896	2677	2611	1917
45°	2353	2304	2106	1931	1854	1813
55°	1635	1585	1437	1267	1201	1466
65°	971	916	828	845	702	957
75°	390	362	340	324	357	417
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°	4744.9	4744.9	4744.9	4744.9	4744.9
2.5°	4712.0	4712.0	4712.0	4706.5	4706.5
5°	4662.7	4657.2	4657.2	4651.7	4651.7
7.5°	4624.3	4618.8	4613.3	4607.8	4596.8
10°	4569.4	4569.4	4563.9	4536.5	4531.0
12.5°	4481.6	4476.1	4454.2	4415.8	4404.8
15°	4361.0	4361.0	4317.1	4273.2	4256.7
17.5°	4229.3	4223.8	4169.0	4125.1	4103.1
20°	4086.7	4075.7	4020.9	3949.5	3911.1
22.5°	3927.6	3927.6	3861.8	3768.5	3730.1
25°	3779.5	3757.6	3697.2	3565.6	3466.8
27.5°	3609.4	3576.5	3510.7	3324.2	3209.0
30°	3422.9	3406.5	3313.2	3071.9	2984.1
32.5°	3247.4	3220.0	3121.2	2868.9	2797.6
35°	3066.4	3044.4	2896.3	2676.9	2611.1
37.5°	2885.4	2857.9	2671.4	2495.9	2413.6
40°	2704.3	2671.4	2468.5	2309.4	2221.6
42.5°	2534.3	2490.4	2292.9	2122.9	2024.1
45°	2353.3	2303.9	2106.4	1930.9	1854.1
47.5°	2172.2	2128.4	1947.3	1766.3	1678.6
50°	1980.3	1941.9	1777.3	1596.3	1503.0
52.5°	1821.2	1760.8	1601.8	1420.7	1343.9
55°	1634.7	1585.3	1437.2	1267.1	1201.3
57.5°	1464.6	1415.3	1278.1	1119.0	1064.2
60°	1305.5	1234.2	1119.0	981.9	938.0
62.5°	1130.0	1075.2	976.4	861.2	916.1
65°	970.9	916.1	828.3	844.8	702.1
67.5°	795.4	768.0	691.2	614.4	592.4
70°	647.3	614.4	586.9	504.7	482.7
72.5°	515.6	482.7	444.3	400.4	384.0
75°	389.5	362.0	340.1	323.6	356.6
77.5°	268.8	257.8	241.4	224.9	219.4
80°	175.5	170.0	164.6	159.1	153.6
82.5°	104.2	104.2	104.2	104.2	104.2
85°	54.9	60.3	65.8	71.3	76.8
87.5°	32.9	32.9	38.4	43.9	49.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)