

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: P562574

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-81-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562574  
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-81-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

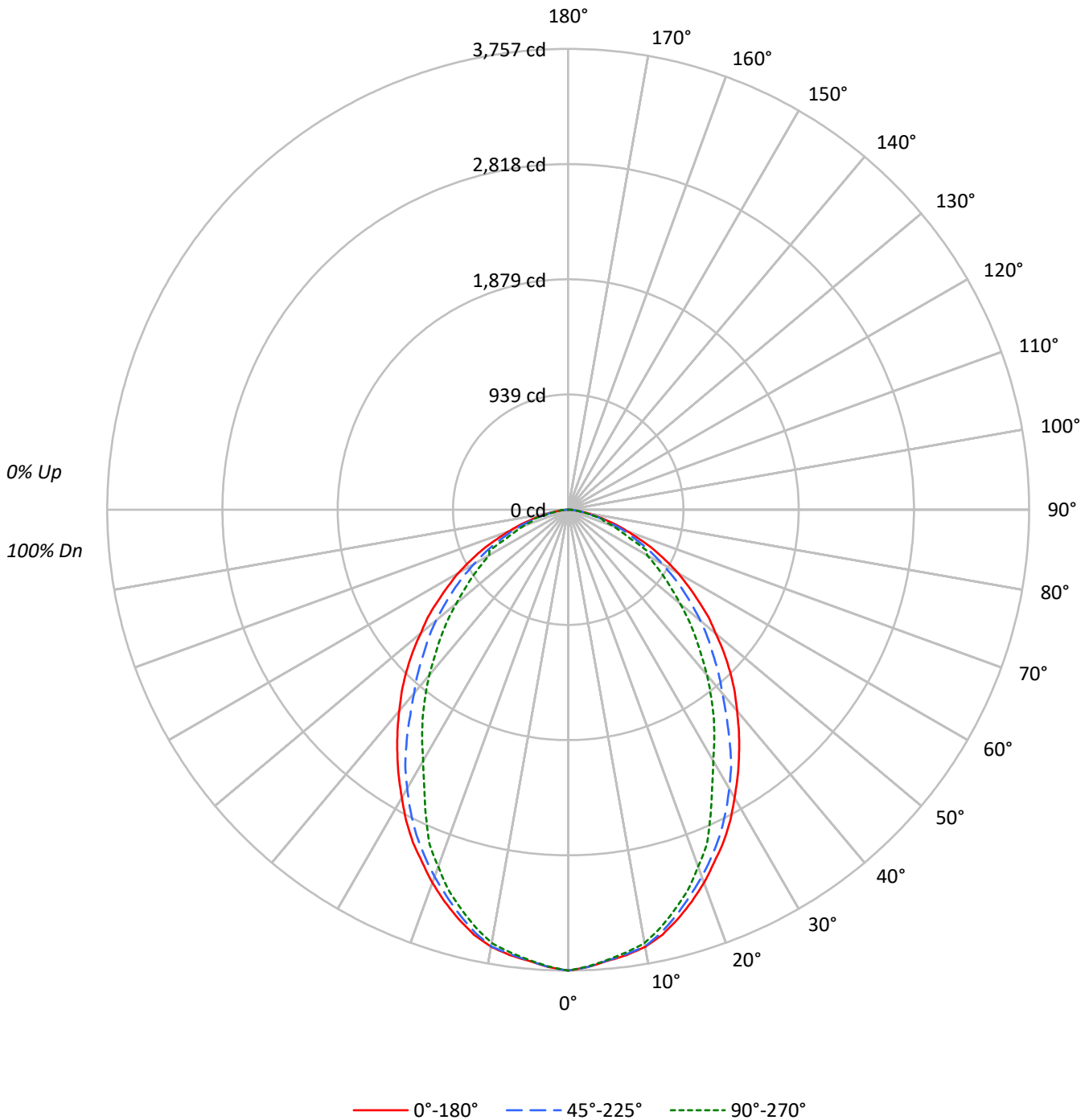
Lumens per Lamp: N/A  
Luminaire Lumens: 7376.0 lumens  
Efficiency: N/A  
Efficacy: 85.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P562574

CATALOG NUMBER: FSR-24-4-LD4-2HI-40-UNV-81-97-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P562574

CATALOG NUMBER: FSR-24-4-LD4-2HI-40-UNV-81-97-EDD-90

**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																												
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°	5055	5055	5055
5°	4987	4981	4975
10°	4943	4937	4902
15°	4810	4762	4695
20°	4633	4559	4434
25°	4443	4346	4075
30°	4211	4076	3671
35°	3988	3767	3396
40°	3761	3433	3090
45°	3546	3174	2794
50°	3282	2946	2491
55°	3036	2670	2232
60°	2782	2384	1999
65°	2448	2088	1770
70°	2016	1828	1504
75°	1603	1400	1468
80°	1077	1010	942
85°	670	804	939

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3546 cd/sqm



TEST NUMBER: P562574

CATALOG NUMBER: FSR-24-4-LD4-2HI-40-UNV-81-97-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	349.7	4.7
10°-20°	959.9	13.0
20°-30°	1328.9	18.0
30°-40°	1416.9	19.2
40°-50°	1292.7	17.5
50°-60°	1012.7	13.7
60°-70°	660.0	8.9
70°-80°	292.4	4.0
80°-90°	62.8	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°	2638.5	35.8
0°-40°	4055.4	55.0
0°-60°	6360.7	86.2
0°-90°	7376.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7376.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3757	3757	3757	3757	3757	
5°	3692	3688	3688	3683	3683	350
15°	3453	3453	3418	3384	3371	971
25°	2993	2975	2928	2823	2745	1374
35°	2428	2411	2293	2120	2068	1518
45°	1863	1824	1668	1529	1468	1435
55°	1294	1255	1138	1003	951	1161
65°	769	725	656	669	556	758
75°	308	287	269	256	282	331
85°	43	48	52	56	61	60
90°	0	0	0	0	0	



TEST NUMBER: P562574

CATALOG NUMBER: FSR-24-4-LD4-2HI-40-UNV-81-97-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3757.2	3757.2	3757.2	3757.2	3757.2
2.5°	3731.2	3731.2	3731.2	3726.8	3726.8
5°	3692.1	3687.7	3687.7	3683.4	3683.4
7.5°	3661.7	3657.3	3653.0	3648.6	3640.0
10°	3618.2	3618.2	3613.9	3592.2	3587.8
12.5°	3548.7	3544.4	3527.0	3496.6	3487.9
15°	3453.2	3453.2	3418.4	3383.7	3370.7
17.5°	3348.9	3344.6	3301.2	3266.4	3249.0
20°	3236.0	3227.3	3183.9	3127.4	3097.0
22.5°	3110.0	3110.0	3057.9	2984.1	2953.7
25°	2992.8	2975.4	2927.6	2823.4	2745.2
27.5°	2858.1	2832.0	2779.9	2632.2	2541.0
30°	2710.4	2697.4	2623.5	2432.4	2362.9
32.5°	2571.4	2549.7	2471.5	2271.7	2215.2
35°	2428.1	2410.7	2293.4	2119.7	2067.6
37.5°	2284.7	2263.0	2115.3	1976.3	1911.2
40°	2141.4	2115.3	1954.6	1828.7	1759.2
42.5°	2006.8	1972.0	1815.6	1681.0	1602.8
45°	1863.4	1824.3	1668.0	1529.0	1468.1
47.5°	1720.1	1685.3	1542.0	1398.6	1329.1
50°	1568.0	1537.6	1407.3	1264.0	1190.2
52.5°	1442.1	1394.3	1268.3	1125.0	1064.2
55°	1294.4	1255.3	1138.0	1003.4	951.3
57.5°	1159.7	1120.7	1012.1	886.1	842.7
60°	1033.8	977.3	886.1	777.5	742.8
62.5°	894.8	851.4	773.2	681.9	725.4
65°	768.8	725.4	655.9	668.9	556.0
67.5°	629.8	608.1	547.3	486.5	469.1
70°	512.5	486.5	464.8	399.6	382.2
72.5°	408.3	382.2	351.8	317.1	304.1
75°	308.4	286.7	269.3	256.3	282.3
77.5°	212.8	204.2	191.1	178.1	173.7
80°	139.0	134.7	130.3	126.0	121.6
82.5°	82.5	82.5	82.5	82.5	82.5
85°	43.4	47.8	52.1	56.5	60.8
87.5°	26.1	26.1	30.4	34.7	39.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)