

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: P563283

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-82-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563283  
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-LD4-3LO-35-UNV-82-85-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

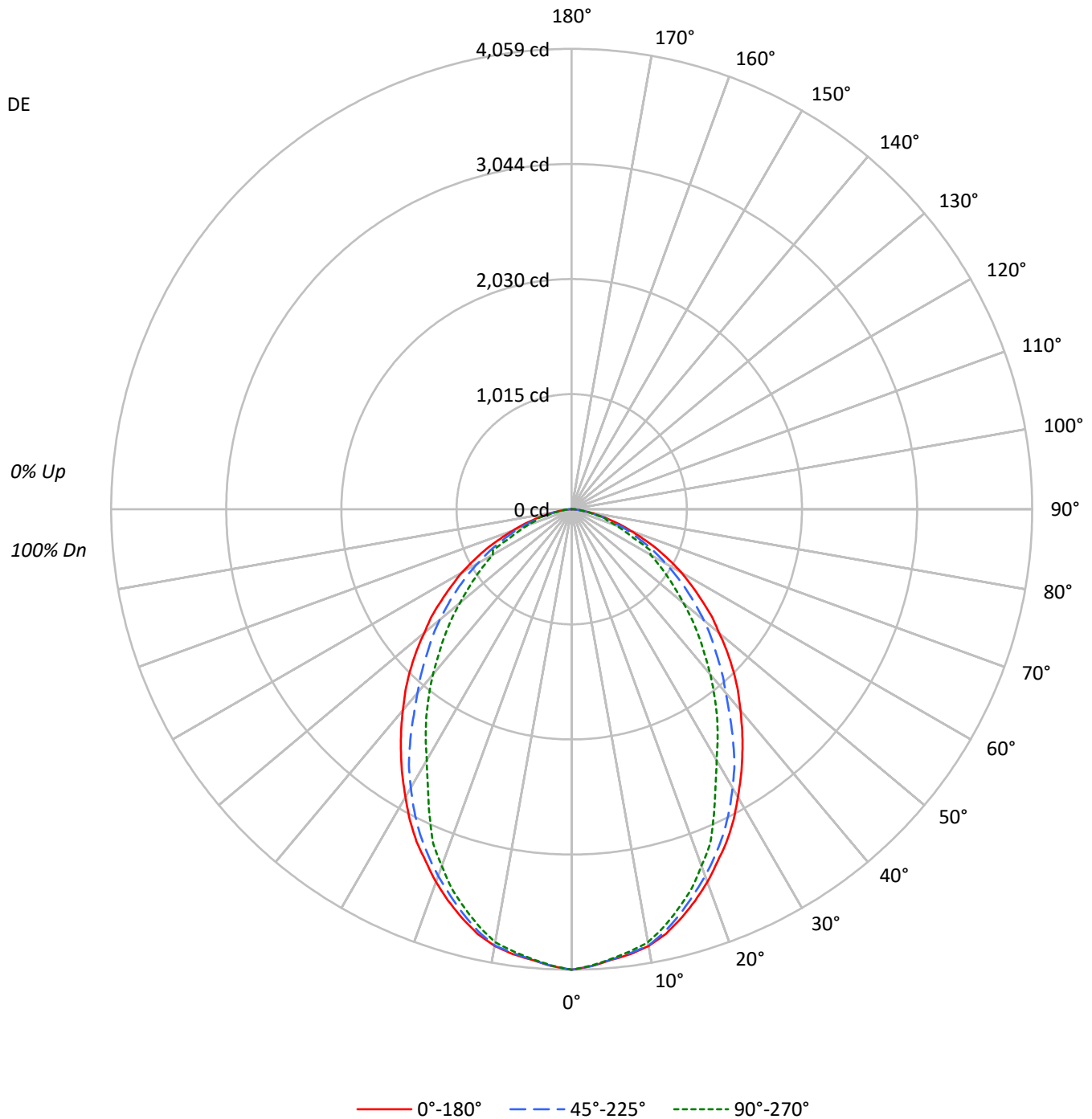
Lumens per Lamp: N/A  
Luminaire Lumens: 7969.0 lumens  
Efficiency: N/A  
Efficacy: 113.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P563283

CATALOG NUMBER: FSR-24-4-LD4-3LO-35-UNV-82-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P563283

CATALOG NUMBER: FSR-24-4-LD4-3LO-35-UNV-82-85-EDD

**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°	5462	5462	5462
5°	5388	5381	5375
10°	5341	5334	5296
15°	5197	5145	5073
20°	5006	4925	4791
25°	4800	4696	4403
30°	4550	4404	3966
35°	4309	4070	3669
40°	4064	3709	3338
45°	3831	3429	3018
50°	3546	3183	2691
55°	3281	2884	2411
60°	3006	2576	2160
65°	2644	2256	1912
70°	2179	1975	1625
75°	1732	1513	1586
80°	1164	1091	1018
85°	724	869	1014

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3831 cd/sqm



TEST NUMBER: P563283

CATALOG NUMBER: FSR-24-4-LD4-3LO-35-UNV-82-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	377.9	4.7
10°-20°	1037.0	13.0
20°-30°	1435.7	18.0
30°-40°	1530.9	19.2
40°-50°	1396.6	17.5
50°-60°	1094.1	13.7
60°-70°	713.1	8.9
70°-80°	315.9	4.0
80°-90°	67.8	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°	2850.6	35.8
0°-40°	4381.4	55.0
0°-60°	6872.1	86.2
0°-90°	7969.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7969.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4059	4059	4059	4059	4059	
5°	3989	3984	3984	3980	3980	379
15°	3731	3731	3693	3656	3642	1049
25°	3233	3215	3163	3050	2966	1484
35°	2623	2604	2478	2290	2234	1640
45°	2013	1971	1802	1652	1586	1551
55°	1398	1356	1230	1084	1028	1254
65°	831	784	709	723	601	819
75°	333	310	291	277	305	357
85°	47	52	56	61	66	65
90°	0	0	0	0	0	



TEST NUMBER: P563283

CATALOG NUMBER: FSR-24-4-LD4-3LO-35-UNV-82-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4059.3	4059.3	4059.3	4059.3	4059.3
2.5°	4031.1	4031.1	4031.1	4026.5	4026.5
5°	3988.9	3984.2	3984.2	3979.5	3979.5
7.5°	3956.1	3951.4	3946.7	3942.0	3932.6
10°	3909.1	3909.1	3904.4	3881.0	3876.3
12.5°	3834.0	3829.4	3810.6	3777.7	3768.3
15°	3730.8	3730.8	3693.3	3655.7	3641.6
17.5°	3618.2	3613.5	3566.6	3529.0	3510.2
20°	3496.2	3486.8	3439.8	3378.8	3346.0
22.5°	3360.1	3360.1	3303.8	3224.0	3191.1
25°	3233.4	3214.6	3163.0	3050.3	2965.9
27.5°	3087.9	3059.7	3003.4	2843.9	2745.3
30°	2928.3	2914.3	2834.5	2628.0	2552.9
32.5°	2778.2	2754.7	2670.2	2454.4	2393.3
35°	2623.3	2604.5	2477.8	2290.1	2233.8
37.5°	2468.4	2445.0	2285.4	2135.2	2064.8
40°	2313.6	2285.4	2111.8	1975.7	1900.6
42.5°	2168.1	2130.5	1961.6	1816.1	1731.7
45°	2013.2	1971.0	1802.0	1651.9	1586.2
47.5°	1858.4	1820.8	1666.0	1511.1	1436.0
50°	1694.1	1661.3	1520.5	1365.6	1285.8
52.5°	1558.0	1506.4	1370.3	1215.4	1149.7
55°	1398.5	1356.2	1229.5	1084.0	1027.7
57.5°	1253.0	1210.8	1093.4	957.3	910.4
60°	1116.9	1055.9	957.3	840.0	802.5
62.5°	966.7	919.8	835.3	736.8	783.7
65°	830.6	783.7	708.6	722.7	600.7
67.5°	680.5	657.0	591.3	525.6	506.8
70°	553.8	525.6	502.1	431.7	413.0
72.5°	441.1	413.0	380.1	342.6	328.5
75°	333.2	309.7	291.0	276.9	305.0
77.5°	229.9	220.6	206.5	192.4	187.7
80°	150.2	145.5	140.8	136.1	131.4
82.5°	89.2	89.2	89.2	89.2	89.2
85°	46.9	51.6	56.3	61.0	65.7
87.5°	28.2	28.2	32.8	37.5	42.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)