

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: P562963

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-82-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562963  
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-LD4-2STD-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

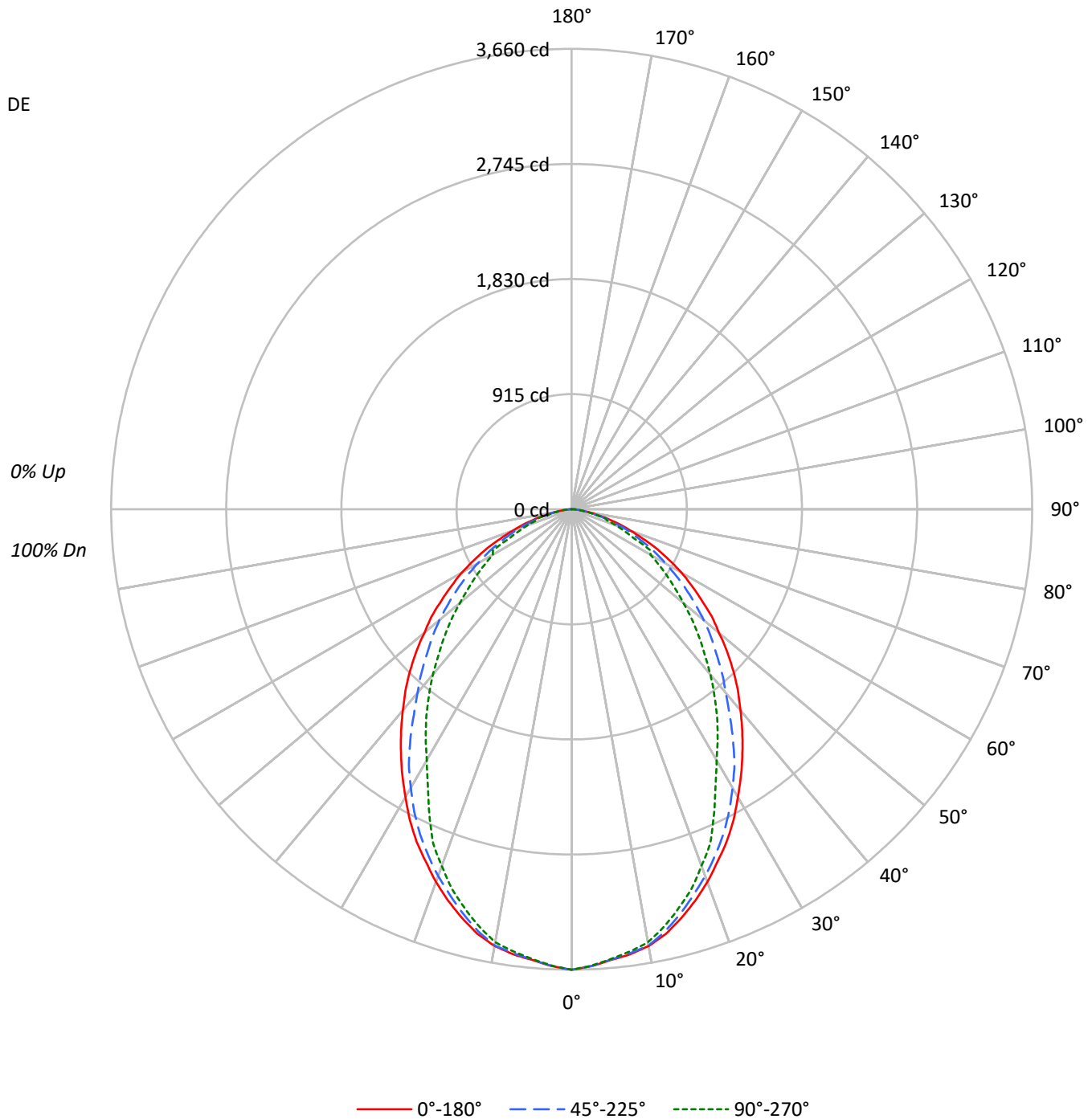
Lumens per Lamp: N/A  
Luminaire Lumens: 7186.0 lumens  
Efficiency: N/A  
Efficacy: 107.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P562963

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-82-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P562963

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-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	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°	4925	4925	4925
5°	4858	4852	4847
10°	4816	4810	4776
15°	4686	4639	4574
20°	4514	4441	4320
25°	4329	4234	3971
30°	4103	3971	3577
35°	3885	3670	3309
40°	3664	3345	3010
45°	3454	3092	2722
50°	3198	2870	2427
55°	2958	2601	2174
60°	2710	2323	1947
65°	2385	2034	1725
70°	1964	1781	1465
75°	1562	1364	1430
80°	1049	984	918
85°	653	784	914

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3454 cd/sqm

TEST NUMBER: P562963

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-82-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	340.7	4.7
10°-20°	935.1	13.0
20°-30°	1294.6	18.0
30°-40°	1380.4	19.2
40°-50°	1259.4	17.5
50°-60°	986.6	13.7
60°-70°	643.0	8.9
70°-80°	284.9	4.0
80°-90°	61.2	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°	2570.5	35.8
0°-40°	3950.9	55.0
0°-60°	6196.9	86.2
0°-90°	7186.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7186.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3660	3660	3660	3660	3660	
5°	3597	3593	3593	3588	3588	341
15°	3364	3364	3330	3296	3284	946
25°	2916	2899	2852	2751	2674	1339
35°	2366	2349	2234	2065	2014	1479
45°	1815	1777	1625	1490	1430	1398
55°	1261	1223	1109	978	927	1131
65°	749	707	639	652	542	738
75°	300	279	262	250	275	322
85°	42	46	51	55	59	59
90°	0	0	0	0	0	



TEST NUMBER: P562963

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-82-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3660.5	3660.5	3660.5	3660.5	3660.5
2.5°	3635.1	3635.1	3635.1	3630.8	3630.8
5°	3597.0	3592.7	3592.7	3588.5	3588.5
7.5°	3567.4	3563.1	3558.9	3554.7	3546.2
10°	3525.0	3525.0	3520.8	3499.6	3495.4
12.5°	3457.3	3453.1	3436.2	3406.5	3398.1
15°	3364.2	3364.2	3330.4	3296.5	3283.8
17.5°	3262.7	3258.4	3216.1	3182.3	3165.3
20°	3152.6	3144.2	3101.9	3046.9	3017.2
22.5°	3029.9	3029.9	2979.1	2907.2	2877.6
25°	2915.7	2898.7	2852.2	2750.6	2674.5
27.5°	2784.5	2759.1	2708.3	2564.4	2475.6
30°	2640.6	2627.9	2556.0	2369.8	2302.1
32.5°	2505.2	2484.0	2407.9	2213.2	2158.2
35°	2365.5	2348.6	2234.4	2065.1	2014.3
37.5°	2225.9	2204.7	2060.9	1925.4	1862.0
40°	2086.2	2060.9	1904.3	1781.6	1713.9
42.5°	1955.1	1921.2	1768.9	1637.7	1561.5
45°	1815.4	1777.3	1625.0	1489.6	1430.3
47.5°	1675.8	1641.9	1502.3	1362.6	1294.9
50°	1527.7	1498.0	1371.1	1231.4	1159.5
52.5°	1404.9	1358.4	1235.7	1096.0	1036.8
55°	1261.1	1223.0	1108.7	977.5	926.8
57.5°	1129.9	1091.8	986.0	863.3	821.0
60°	1007.2	952.1	863.3	757.5	723.6
62.5°	871.7	829.4	753.2	664.4	706.7
65°	749.0	706.7	639.0	651.7	541.7
67.5°	613.6	592.4	533.2	474.0	457.0
70°	499.3	474.0	452.8	389.3	372.4
72.5°	397.8	372.4	342.8	308.9	296.2
75°	300.5	279.3	262.4	249.7	275.1
77.5°	207.4	198.9	186.2	173.5	169.3
80°	135.4	131.2	127.0	122.7	118.5
82.5°	80.4	80.4	80.4	80.4	80.4
85°	42.3	46.5	50.8	55.0	59.2
87.5°	25.4	25.4	29.6	33.9	38.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)