

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: P561731

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-81-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561731  
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-12-4-LD4-2STD-35-UNV-81-85-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

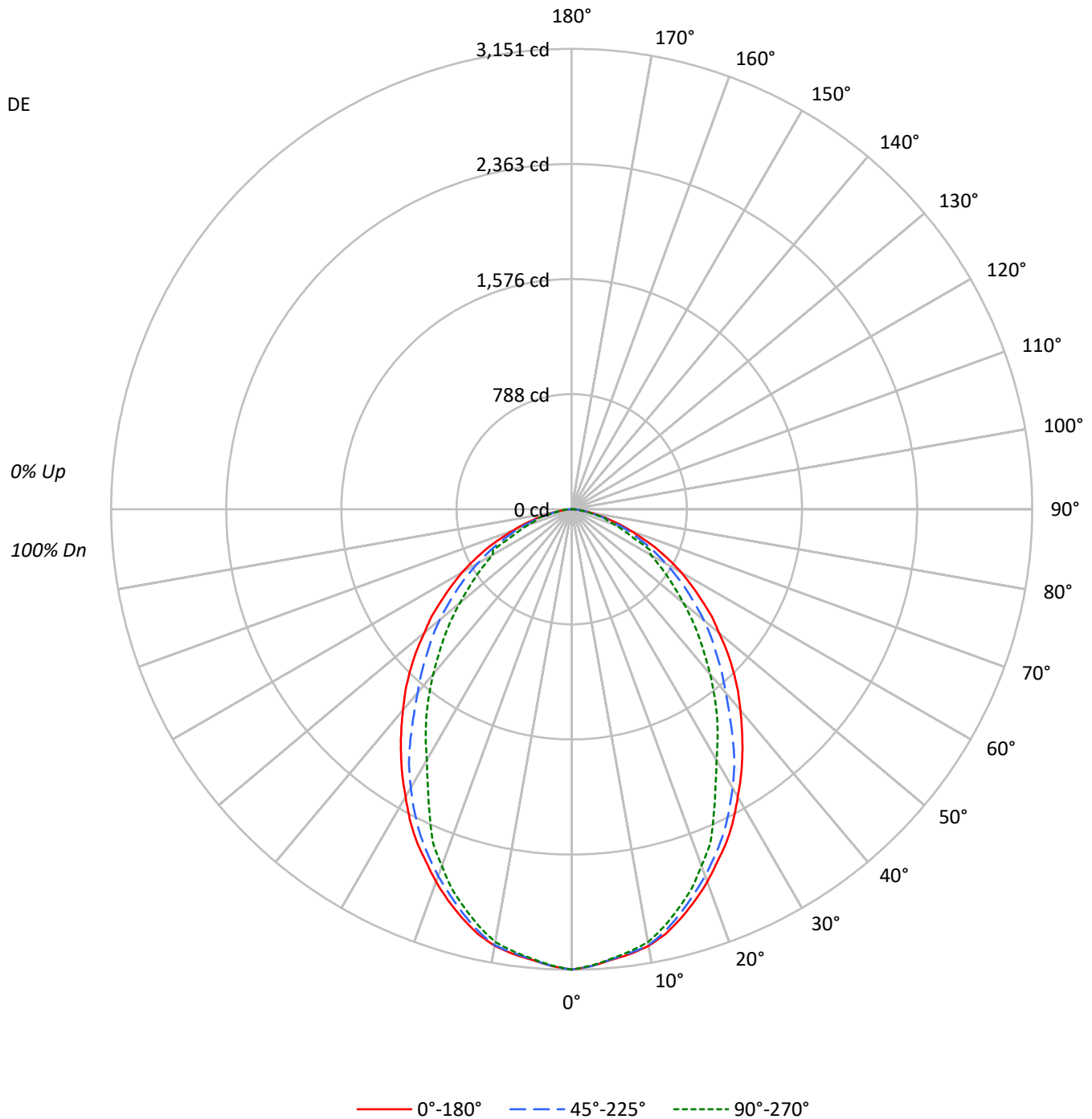
Lumens per Lamp: N/A  
Luminaire Lumens: 6185.0 lumens  
Efficiency: N/A  
Efficacy: 92.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P561731

CATALOG NUMBER: FSR-12-4-LD4-2STD-35-UNV-81-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P561731

CATALOG NUMBER: FSR-12-4-LD4-2STD-35-UNV-81-85-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	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				
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°	8478	8478	8478
5°	8363	8353	8343
10°	8290	8281	8221
15°	8067	7986	7874
20°	7771	7645	7437
25°	7451	7289	6835
30°	7062	6836	6157
35°	6688	6318	5695
40°	6308	5758	5182
45°	5946	5323	4685
50°	5505	4940	4178
55°	5092	4477	3742
60°	4666	3999	3352
65°	4105	3502	2968
70°	3382	3066	2522
75°	2689	2348	2461
80°	1807	1694	1581
85°	1124	1349	1575

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5946 cd/sqm



TEST NUMBER: P561731

CATALOG NUMBER: FSR-12-4-LD4-2STD-35-UNV-81-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	293.3	4.7
10°-20°	804.9	13.0
20°-30°	1114.3	18.0
30°-40°	1188.1	19.2
40°-50°	1083.9	17.5
50°-60°	849.2	13.7
60°-70°	553.5	8.9
70°-80°	245.2	4.0
80°-90°	52.6	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°	2212.4	35.8
0°-40°	3400.6	55.0
0°-60°	5333.7	86.2
0°-90°	6185.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6185.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3151	3151	3151	3151	3151	
5°	3096	3092	3092	3089	3089	294
15°	2896	2896	2866	2837	2826	814
25°	2510	2495	2455	2368	2302	1152
35°	2036	2022	1923	1777	1734	1273
45°	1562	1530	1399	1282	1231	1204
55°	1085	1053	954	841	798	974
65°	645	608	550	561	466	635
75°	259	240	226	215	237	277
85°	36	40	44	47	51	51
90°	0	0	0	0	0	



TEST NUMBER: P561731

CATALOG NUMBER: FSR-12-4-LD4-2STD-35-UNV-81-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3150.6	3150.6	3150.6	3150.6	3150.6
2.5°	3128.7	3128.7	3128.7	3125.1	3125.1
5°	3095.9	3092.3	3092.3	3088.6	3088.6
7.5°	3070.4	3066.8	3063.1	3059.5	3052.2
10°	3034.0	3034.0	3030.4	3012.2	3008.5
12.5°	2975.7	2972.1	2957.5	2932.0	2924.7
15°	2895.6	2895.6	2866.5	2837.3	2826.4
17.5°	2808.2	2804.5	2768.1	2739.0	2724.4
20°	2713.5	2706.2	2669.8	2622.4	2596.9
22.5°	2607.9	2607.9	2564.2	2502.2	2476.7
25°	2509.5	2494.9	2454.9	2367.5	2301.9
27.5°	2396.6	2374.8	2331.0	2207.2	2130.7
30°	2272.8	2261.8	2199.9	2039.7	1981.4
32.5°	2156.2	2138.0	2072.4	1904.9	1857.6
35°	2036.0	2021.5	1923.1	1777.4	1733.7
37.5°	1915.8	1897.6	1773.8	1657.2	1602.6
40°	1795.6	1773.8	1639.0	1533.4	1475.1
42.5°	1682.7	1653.6	1522.5	1409.6	1344.0
45°	1562.5	1529.7	1398.6	1282.1	1231.1
47.5°	1442.3	1413.2	1293.0	1172.8	1114.5
50°	1314.9	1289.4	1180.1	1059.9	998.0
52.5°	1209.2	1169.2	1063.5	943.3	892.4
55°	1085.4	1052.6	954.3	841.4	797.7
57.5°	972.5	939.7	848.6	743.0	706.6
60°	866.9	819.5	743.0	652.0	622.8
62.5°	750.3	713.9	648.3	571.8	608.3
65°	644.7	608.3	550.0	560.9	466.2
67.5°	528.1	509.9	458.9	407.9	393.4
70°	429.8	407.9	389.7	335.1	320.5
72.5°	342.4	320.5	295.0	265.9	255.0
75°	258.6	240.4	225.8	214.9	236.7
77.5°	178.5	171.2	160.3	149.3	145.7
80°	116.6	112.9	109.3	105.6	102.0
82.5°	69.2	69.2	69.2	69.2	69.2
85°	36.4	40.1	43.7	47.3	51.0
87.5°	21.9	21.9	25.5	29.1	32.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)