

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: P560584

Luminaire Tested: FSR-12-2-LD4-2STD-35-UNV-81-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560584  
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-12-2-LD4-2STD-35-UNV-81-88-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

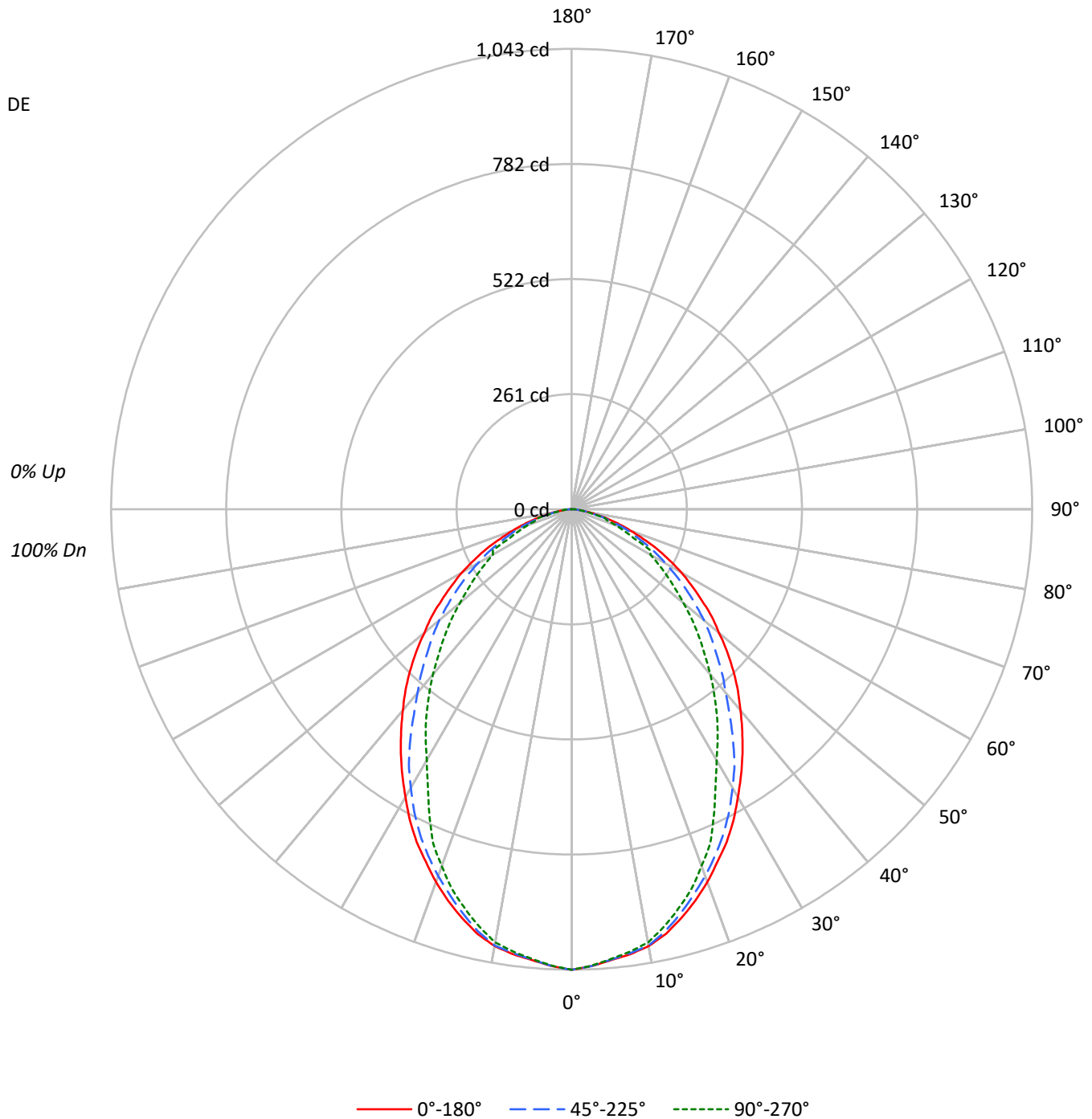
Lumens per Lamp: N/A  
Luminaire Lumens: 2048.0 lumens  
Efficiency: N/A  
Efficacy: 61.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P560584

CATALOG NUMBER: FSR-12-2-LD4-2STD-35-UNV-81-88-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P560584

CATALOG NUMBER: FSR-12-2-LD4-2STD-35-UNV-81-88-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	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°	5614	5614	5614
5°	5538	5532	5525
10°	5490	5484	5444
15°	5342	5289	5215
20°	5146	5063	4925
25°	4935	4827	4526
30°	4677	4527	4077
35°	4430	4184	3772
40°	4177	3813	3431
45°	3938	3525	3102
50°	3646	3272	2767
55°	3372	2965	2478
60°	3089	2648	2220
65°	2719	2319	1966
70°	2239	2030	1670
75°	1780	1555	1630
80°	1196	1122	1048
85°	747	895	1044

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3938 cd/sqm



TEST NUMBER: P560584

CATALOG NUMBER: FSR-12-2-LD4-2STD-35-UNV-81-88-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	97.1	4.7
10°-20°	266.5	13.0
20°-30°	369.0	18.0
30°-40°	393.4	19.2
40°-50°	358.9	17.5
50°-60°	281.2	13.7
60°-70°	183.3	8.9
70°-80°	81.2	4.0
80°-90°	17.4	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°	732.6	35.8
0°-40°	1126.0	55.0
0°-60°	1766.1	86.2
0°-90°	2048.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2048.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1043	1043	1043	1043	1043	
5°	1025	1024	1024	1023	1023	97
15°	959	959	949	940	936	270
25°	831	826	813	784	762	382
35°	674	669	637	588	574	421
45°	517	506	463	424	408	399
55°	359	348	316	279	264	322
65°	214	201	182	186	154	210
75°	86	80	75	71	78	92
85°	12	13	14	16	17	17
90°	0	0	0	0	0	



TEST NUMBER: P560584

CATALOG NUMBER: FSR-12-2-LD4-2STD-35-UNV-81-88-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1043.2	1043.2	1043.2	1043.2	1043.2
2.5°	1036.0	1036.0	1036.0	1034.8	1034.8
5°	1025.1	1023.9	1023.9	1022.7	1022.7
7.5°	1016.7	1015.5	1014.3	1013.1	1010.7
10°	1004.6	1004.6	1003.4	997.4	996.2
12.5°	985.3	984.1	979.3	970.9	968.4
15°	958.8	958.8	949.2	939.5	935.9
17.5°	929.9	928.7	916.6	906.9	902.1
20°	898.5	896.1	884.0	868.3	859.9
22.5°	863.5	863.5	849.1	828.5	820.1
25°	831.0	826.1	812.9	783.9	762.2
27.5°	793.6	786.3	771.9	730.9	705.5
30°	752.6	749.0	728.4	675.4	656.1
32.5°	714.0	707.9	686.2	630.8	615.1
35°	674.2	669.4	636.8	588.5	574.1
37.5°	634.4	628.3	587.3	548.7	530.7
40°	594.6	587.3	542.7	507.7	488.4
42.5°	557.2	547.5	504.1	466.7	445.0
45°	517.4	506.5	463.1	424.5	407.6
47.5°	477.6	467.9	428.1	388.3	369.0
50°	435.4	426.9	390.8	351.0	330.5
52.5°	400.4	387.1	352.2	312.4	295.5
55°	359.4	348.5	316.0	278.6	264.1
57.5°	322.0	311.2	281.0	246.0	234.0
60°	287.0	271.4	246.0	215.9	206.2
62.5°	248.4	236.4	214.7	189.3	201.4
65°	213.5	201.4	182.1	185.7	154.4
67.5°	174.9	168.8	152.0	135.1	130.3
70°	142.3	135.1	129.0	111.0	106.1
72.5°	113.4	106.1	97.7	88.0	84.4
75°	85.6	79.6	74.8	71.2	78.4
77.5°	59.1	56.7	53.1	49.4	48.2
80°	38.6	37.4	36.2	35.0	33.8
82.5°	22.9	22.9	22.9	22.9	22.9
85°	12.1	13.3	14.5	15.7	16.9
87.5°	7.2	7.2	8.4	9.6	10.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)