

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: P559495

Luminaire Tested: FSR-12-1-LD4-2STD-40-UNV-81-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559495  
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-12-1-LD4-2STD-40-UNV-81-87-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

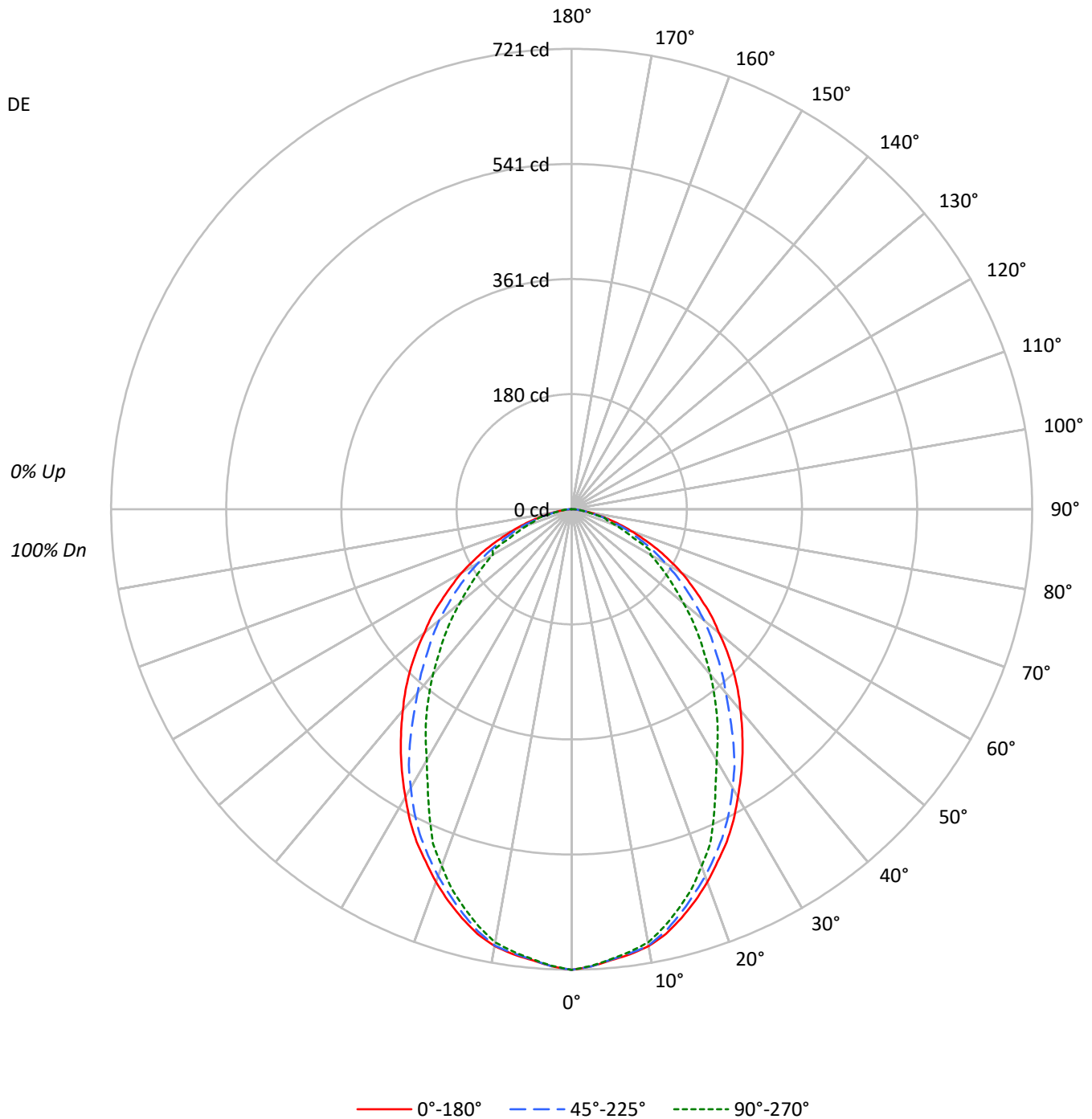
Lumens per Lamp: N/A  
Luminaire Lumens: 1416.0 lumens  
Efficiency: N/A  
Efficacy: 85.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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### Luminous Intensity Polar Plot





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**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°	7764	7764	7764
5°	7659	7649	7640
10°	7592	7583	7529
15°	7387	7314	7211
20°	7116	7001	6810
25°	6823	6675	6259
30°	6467	6261	5638
35°	6125	5786	5215
40°	5776	5272	4745
45°	5445	4874	4290
50°	5040	4525	3826
55°	4663	4100	3427
60°	4273	3662	3070
65°	3759	3207	2718
70°	3097	2807	2310
75°	2462	2150	2254
80°	1655	1550	1444
85°	1025	1235	1445

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5445 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	67.1	4.7
10°-20°	184.3	13.0
20°-30°	255.1	18.0
30°-40°	272.0	19.2
40°-50°	248.2	17.5
50°-60°	194.4	13.7
60°-70°	126.7	8.9
70°-80°	56.1	4.0
80°-90°	12.0	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°	506.5	35.8
0°-40°	778.5	55.0
0°-60°	1221.1	86.2
0°-90°	1416.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1416.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	721	721	721	721	721	
5°	709	708	708	707	707	67
15°	663	663	656	650	647	186
25°	574	571	562	542	527	264
35°	466	463	440	407	397	291
45°	358	350	320	294	282	276
55°	248	241	218	193	183	223
65°	148	139	126	128	107	145
75°	59	55	52	49	54	63
85°	8	9	10	11	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	721.3	721.3	721.3	721.3	721.3
2.5°	716.3	716.3	716.3	715.5	715.5
5°	708.8	707.9	707.9	707.1	707.1
7.5°	702.9	702.1	701.3	700.4	698.8
10°	694.6	694.6	693.8	689.6	688.8
12.5°	681.3	680.4	677.1	671.3	669.6
15°	662.9	662.9	656.3	649.6	647.1
17.5°	642.9	642.1	633.7	627.1	623.7
20°	621.2	619.6	611.2	600.4	594.5
22.5°	597.0	597.0	587.0	572.9	567.0
25°	574.5	571.2	562.0	542.0	527.0
27.5°	548.7	543.7	533.7	505.3	487.8
30°	520.3	517.8	503.7	467.0	453.6
32.5°	493.6	489.5	474.5	436.1	425.3
35°	466.1	462.8	440.3	406.9	396.9
37.5°	438.6	434.4	406.1	379.4	366.9
40°	411.1	406.1	375.2	351.1	337.7
42.5°	385.2	378.6	348.6	322.7	307.7
45°	357.7	350.2	320.2	293.5	281.8
47.5°	330.2	323.5	296.0	268.5	255.2
50°	301.0	295.2	270.2	242.7	228.5
52.5°	276.8	267.7	243.5	216.0	204.3
55°	248.5	241.0	218.5	192.6	182.6
57.5°	222.6	215.1	194.3	170.1	161.8
60°	198.5	187.6	170.1	149.3	142.6
62.5°	171.8	163.4	148.4	130.9	139.3
65°	147.6	139.3	125.9	128.4	106.7
67.5°	120.9	116.7	105.1	93.4	90.1
70°	98.4	93.4	89.2	76.7	73.4
72.5°	78.4	73.4	67.5	60.9	58.4
75°	59.2	55.0	51.7	49.2	54.2
77.5°	40.9	39.2	36.7	34.2	33.4
80°	26.7	25.8	25.0	24.2	23.3
82.5°	15.8	15.8	15.8	15.8	15.8
85°	8.3	9.2	10.0	10.8	11.7
87.5°	5.0	5.0	5.8	6.7	7.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)