

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: P560397

Luminaire Tested: FSR-12-2-LD4-2LO-35-UNV-81-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560397  
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-LD4-2LO-35-UNV-81-96-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

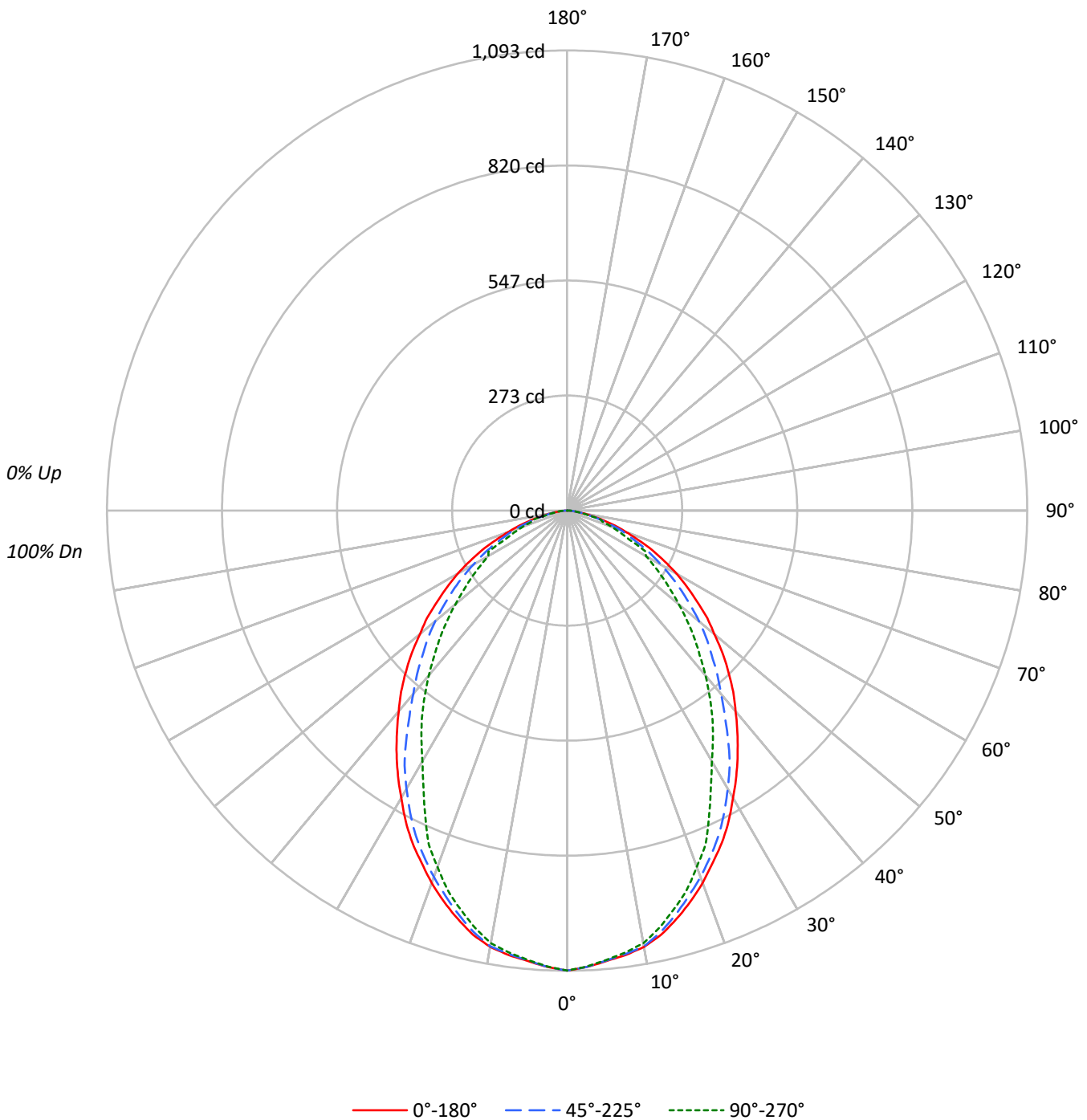
Lumens per Lamp: N/A  
Luminaire Lumens: 2145.0 lumens  
Efficiency: N/A  
Efficacy: 91.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5880	5880	5880
5°	5801	5794	5787
10°	5750	5744	5702
15°	5595	5539	5461
20°	5390	5303	5158
25°	5168	5056	4741
30°	4898	4741	4271
35°	4639	4382	3951
40°	4375	3993	3594
45°	4125	3692	3249
50°	3818	3427	2898
55°	3532	3105	2595
60°	3236	2774	2325
65°	2848	2429	2059
70°	2346	2127	1750
75°	1865	1628	1707
80°	1252	1175	1097
85°	778	939	1093

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4125 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.7	4.7
10°-20°	279.1	13.0
20°-30°	386.4	18.0
30°-40°	412.1	19.2
40°-50°	375.9	17.5
50°-60°	294.5	13.7
60°-70°	191.9	8.9
70°-80°	85.0	4.0
80°-90°	18.3	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°	767.3	35.8
0°-40°	1179.3	55.0
0°-60°	1849.8	86.2
0°-90°	2145.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2145.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1093	1093	1093	1093	1093	
5°	1074	1072	1072	1071	1071	102
15°	1004	1004	994	984	980	282
25°	870	865	851	821	798	400
35°	706	701	667	616	601	441
45°	542	530	485	445	427	417
55°	376	365	331	292	277	338
65°	224	211	191	194	162	220
75°	90	83	78	74	82	96
85°	13	14	15	16	18	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1092.6	1092.6	1092.6	1092.6	1092.6
2.5°	1085.1	1085.1	1085.1	1083.8	1083.8
5°	1073.7	1072.4	1072.4	1071.2	1071.2
7.5°	1064.8	1063.6	1062.3	1061.1	1058.5
10°	1052.2	1052.2	1051.0	1044.6	1043.4
12.5°	1032.0	1030.7	1025.7	1016.8	1014.3
15°	1004.2	1004.2	994.1	984.0	980.2
17.5°	973.9	972.6	960.0	949.9	944.8
20°	941.1	938.5	925.9	909.5	900.6
22.5°	904.4	904.4	889.3	867.8	858.9
25°	870.3	865.3	851.4	821.1	798.3
27.5°	831.2	823.6	808.4	765.5	738.9
30°	788.2	784.4	762.9	707.4	687.2
32.5°	747.8	741.5	718.7	660.6	644.2
35°	706.1	701.1	666.9	616.4	601.3
37.5°	664.4	658.1	615.2	574.7	555.8
40°	622.7	615.2	568.4	531.8	511.6
42.5°	583.6	573.5	528.0	488.8	466.1
45°	541.9	530.5	485.1	444.6	426.9
47.5°	500.2	490.1	448.4	406.7	386.5
50°	456.0	447.2	409.3	367.6	346.1
52.5°	419.4	405.5	368.8	327.2	309.5
55°	376.4	365.1	330.9	291.8	276.6
57.5°	337.3	325.9	294.3	257.7	245.1
60°	300.6	284.2	257.7	226.1	216.0
62.5°	260.2	247.6	224.8	198.3	210.9
65°	223.6	210.9	190.7	194.5	161.7
67.5°	183.2	176.8	159.2	141.5	136.4
70°	149.1	141.5	135.2	116.2	111.2
72.5°	118.7	111.2	102.3	92.2	88.4
75°	89.7	83.4	78.3	74.5	82.1
77.5°	61.9	59.4	55.6	51.8	50.5
80°	40.4	39.2	37.9	36.6	35.4
82.5°	24.0	24.0	24.0	24.0	24.0
85°	12.6	13.9	15.2	16.4	17.7
87.5°	7.6	7.6	8.8	10.1	11.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)