

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: P560668

Luminaire Tested: FSR-12-2-LD4-2STD-40-UNV-82-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560668  
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-40-UNV-82-96-EDD-90  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

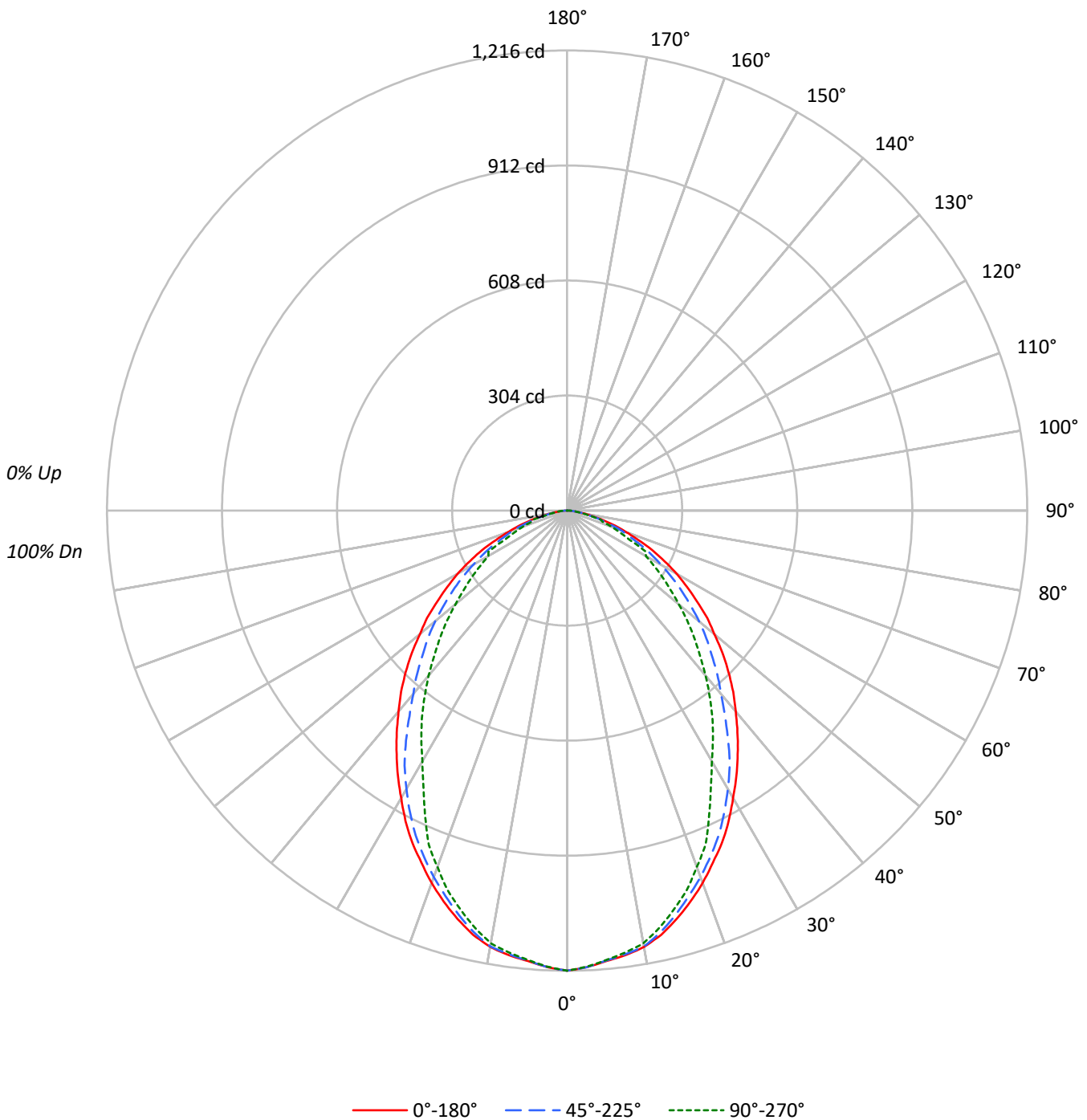
Lumens per Lamp: N/A  
Luminaire Lumens: 2387.0 lumens  
Efficiency: N/A  
Efficacy: 71.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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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°	6544	6544	6544
5°	6455	6447	6440
10°	6399	6391	6345
15°	6227	6164	6078
20°	5998	5901	5740
25°	5751	5626	5276
30°	5451	5276	4752
35°	5163	4876	4396
40°	4869	4444	4000
45°	4590	4109	3616
50°	4248	3813	3225
55°	3931	3456	2888
60°	3601	3087	2588
65°	3168	2704	2291
70°	2611	2367	1947
75°	2075	1813	1901
80°	1395	1308	1221
85°	871	1044	1216

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4590 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.2	4.7
10°-20°	310.6	13.0
20°-30°	430.0	18.0
30°-40°	458.6	19.2
40°-50°	418.3	17.5
50°-60°	327.7	13.7
60°-70°	213.6	8.9
70°-80°	94.6	4.0
80°-90°	20.3	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°	853.9	35.8
0°-40°	1312.4	55.0
0°-60°	2058.5	86.2
0°-90°	2387.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2387.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1216	1216	1216	1216	1216	
5°	1195	1193	1193	1192	1192	113
15°	1118	1118	1106	1095	1091	314
25°	968	963	947	914	888	445
35°	786	780	742	686	669	491
45°	603	590	540	495	475	464
55°	419	406	368	325	308	376
65°	249	235	212	216	180	245
75°	100	93	87	83	91	107
85°	14	16	17	18	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1215.9	1215.9	1215.9	1215.9	1215.9
2.5°	1207.5	1207.5	1207.5	1206.1	1206.1
5°	1194.8	1193.4	1193.4	1192.0	1192.0
7.5°	1185.0	1183.6	1182.2	1180.8	1178.0
10°	1170.9	1170.9	1169.5	1162.5	1161.1
12.5°	1148.4	1147.0	1141.4	1131.6	1128.8
15°	1117.5	1117.5	1106.3	1095.0	1090.8
17.5°	1083.8	1082.4	1068.3	1057.1	1051.4
20°	1047.2	1044.4	1030.4	1012.1	1002.2
22.5°	1006.5	1006.5	989.6	965.7	955.9
25°	968.5	962.9	947.4	913.7	888.4
27.5°	924.9	916.5	899.6	851.8	822.3
30°	877.1	872.9	849.0	787.2	764.7
32.5°	832.2	825.1	799.8	735.2	716.9
35°	785.8	780.1	742.2	686.0	669.1
37.5°	739.4	732.4	684.6	639.6	618.5
40°	693.0	684.6	632.6	591.8	569.3
42.5°	649.4	638.2	587.6	544.0	518.7
45°	603.0	590.4	539.8	494.8	475.1
47.5°	556.6	545.4	499.0	452.6	430.1
50°	507.4	497.6	455.4	409.1	385.2
52.5°	466.7	451.2	410.5	364.1	344.4
55°	418.9	406.2	368.3	324.7	307.8
57.5°	375.3	362.7	327.5	286.8	272.7
60°	334.5	316.3	286.8	251.6	240.4
62.5°	289.6	275.5	250.2	220.7	234.7
65°	248.8	234.7	212.3	216.5	179.9
67.5°	203.8	196.8	177.1	157.4	151.8
70°	165.9	157.4	150.4	129.3	123.7
72.5°	132.1	123.7	113.9	102.6	98.4
75°	99.8	92.8	87.2	82.9	91.4
77.5°	68.9	66.1	61.8	57.6	56.2
80°	45.0	43.6	42.2	40.8	39.4
82.5°	26.7	26.7	26.7	26.7	26.7
85°	14.1	15.5	16.9	18.3	19.7
87.5°	8.4	8.4	9.8	11.2	12.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)