

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: P590323

Luminaire Tested: FSR-24-2-LD4-2LO-50-UNV-93-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590323
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2LO-50-UNV-93-96-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

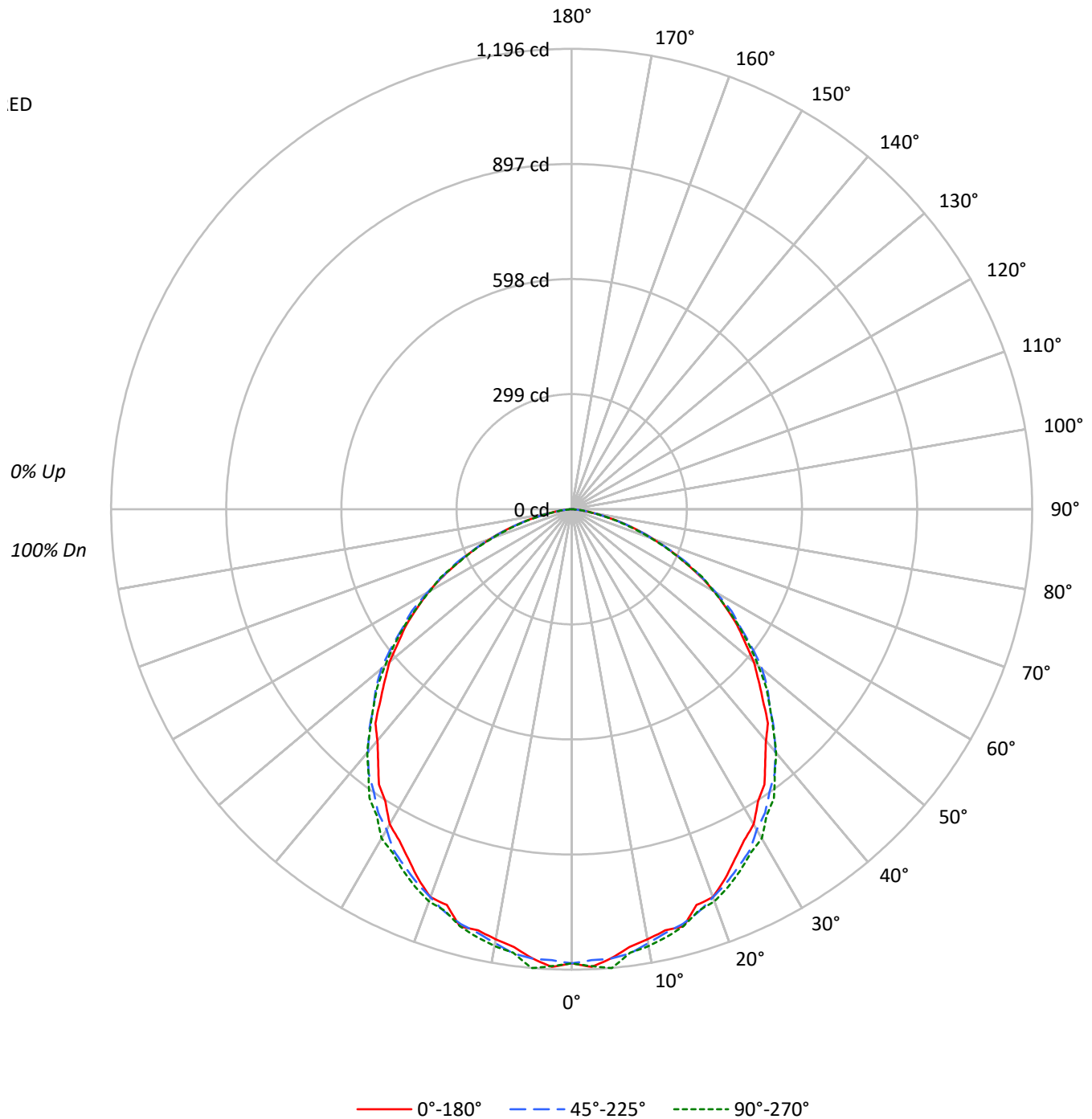
Lumens per Lamp: N/A
Luminaire Lumens: 2973.0 lumens
Efficiency: N/A
Efficacy: 127.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88					86				
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75					73				
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64					62				
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55					53				
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48					46				
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43					41				
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38					36				
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34					32				
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31					29				
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28					26				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3174	3174	3174
5°	3164	3165	3232
10°	3100	3127	3149
15°	3124	3107	3125
20°	3071	3071	3104
25°	2977	3042	3075
30°	2936	2988	3067
35°	2867	2942	3008
40°	2755	2888	2901
45°	2672	2767	2771
50°	2584	2701	2649
55°	2462	2510	2492
60°	2302	2326	2284
65°	2053	2106	2038
70°	1762	1768	1718
75°	1395	1392	1338
80°	934	908	874
85°	506	503	469

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2838 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.0	3.7
10°-20°	314.5	10.6
20°-30°	471.1	15.8
30°-40°	558.4	18.8
40°-50°	559.4	18.8
50°-60°	474.9	16.0
60°-70°	320.2	10.8
70°-80°	140.7	4.7
80°-90°	22.9	0.8
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°	896.6	30.2
0°-40°	1455.0	48.9
0°-60°	2489.3	83.7
0°-90°	2973.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2973.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1180	1180	1180	1180	1180	
5°	1171	1168	1172	1168	1196	110
15°	1121	1108	1115	1121	1122	312
25°	1003	1008	1025	1038	1036	464
35°	873	875	896	916	916	542
45°	702	715	727	746	728	543
55°	525	521	535	531	531	467
65°	322	318	331	318	320	321
75°	134	131	134	124	129	144
85°	16	16	16	16	15	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1179.6	1179.6	1179.6	1179.6	1179.6
2.5°	1189.8	1180.8	1172.5	1182.2	1188.1
5°	1171.2	1168.5	1171.7	1168.2	1196.4
7.5°	1147.2	1157.7	1163.8	1160.0	1161.6
10°	1134.4	1130.7	1144.3	1153.7	1152.3
12.5°	1120.7	1126.2	1126.9	1137.1	1138.0
15°	1121.4	1108.5	1115.3	1121.1	1121.6
17.5°	1077.9	1091.9	1096.6	1109.9	1093.4
20°	1072.5	1062.3	1072.5	1086.1	1084.0
22.5°	1039.8	1028.4	1050.3	1062.3	1061.6
25°	1002.6	1008.1	1024.6	1038.0	1035.8
27.5°	970.0	976.4	999.9	1018.3	1006.4
30°	944.9	941.7	961.5	978.0	987.1
32.5°	900.0	911.6	934.7	951.0	942.3
35°	872.7	875.3	895.6	916.3	915.7
37.5°	825.0	837.1	865.6	871.3	866.0
40°	784.4	796.4	822.1	828.4	825.8
42.5°	754.4	756.5	778.6	785.7	774.3
45°	702.1	715.2	727.1	745.8	728.2
47.5°	657.7	663.8	689.3	694.4	685.1
50°	617.3	619.4	645.2	638.9	632.8
52.5°	566.6	575.6	590.0	588.8	581.7
55°	524.8	521.3	535.1	531.4	531.2
57.5°	474.7	480.8	492.1	486.3	477.0
60°	427.8	428.0	432.1	425.5	424.3
62.5°	375.6	377.4	378.3	370.3	383.4
65°	322.4	318.2	330.7	318.0	320.1
67.5°	273.5	275.7	274.5	266.5	269.6
70°	223.9	226.6	224.7	215.7	218.4
72.5°	178.5	175.2	177.3	166.0	171.2
75°	134.2	131.4	133.9	124.4	128.7
77.5°	91.4	93.5	92.0	87.0	89.9
80°	60.3	58.6	58.6	55.7	56.4
82.5°	35.2	33.5	33.1	32.1	33.5
85°	16.4	16.0	16.3	15.8	15.2
87.5°	5.9	6.1	6.1	5.8	5.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)