

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: P560431

Luminaire Tested: FSR-12-2-LD4-2LO-35-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560431
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-93-97-EDD
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

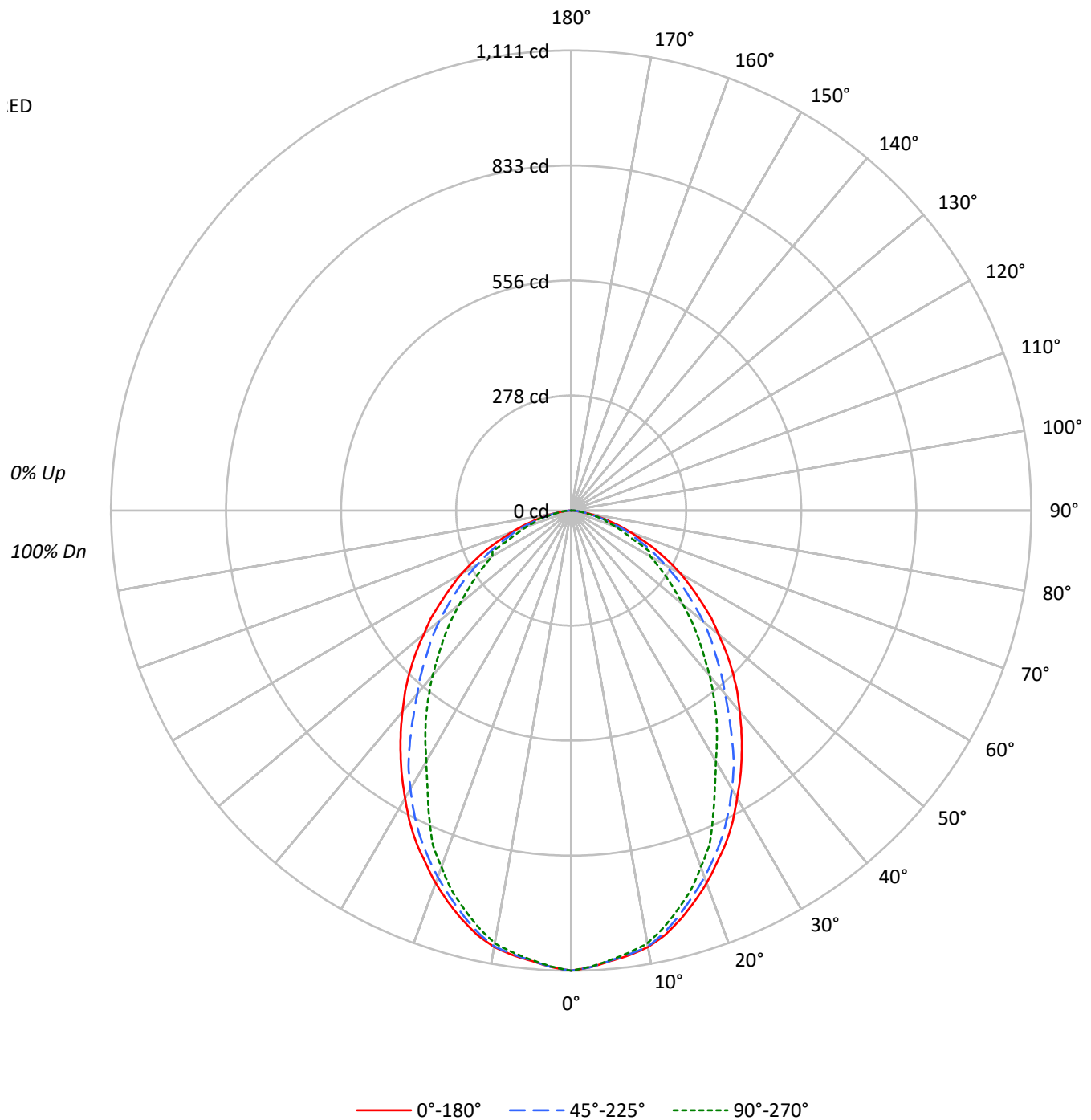
Lumens per Lamp: N/A
Luminaire Lumens: 2181.0 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

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	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°	5979	5979	5979
5°	5898	5891	5884
10°	5847	5840	5798
15°	5689	5632	5553
20°	5480	5392	5245
25°	5255	5141	4820
30°	4980	4821	4342
35°	4717	4455	4017
40°	4449	4061	3655
45°	4194	3754	3304
50°	3882	3484	2946
55°	3591	3157	2639
60°	3291	2820	2364
65°	2895	2469	2094
70°	2386	2162	1778
75°	1896	1655	1736
80°	1274	1193	1116
85°	790	951	1112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4194 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.4	4.7
10°-20°	283.8	13.0
20°-30°	392.9	18.0
30°-40°	419.0	19.2
40°-50°	382.2	17.5
50°-60°	299.4	13.7
60°-70°	195.1	8.9
70°-80°	86.5	4.0
80°-90°	18.6	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°	780.2	35.8
0°-40°	1199.1	55.0
0°-60°	1880.8	86.2
0°-90°	2181.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2181.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1111	1111	1111	1111	1111	
5°	1092	1090	1090	1089	1089	104
15°	1021	1021	1011	1000	997	287
25°	885	880	866	835	812	406
35°	718	713	678	627	611	449
45°	551	539	493	452	434	424
55°	383	371	336	297	281	343
65°	227	214	194	198	164	224
75°	91	85	80	76	84	98
85°	13	14	15	17	18	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1111.0	1111.0	1111.0	1111.0	1111.0
2.5°	1103.3	1103.3	1103.3	1102.0	1102.0
5°	1091.7	1090.4	1090.4	1089.1	1089.1
7.5°	1082.7	1081.4	1080.1	1078.9	1076.3
10°	1069.9	1069.9	1068.6	1062.2	1060.9
12.5°	1049.3	1048.0	1042.9	1033.9	1031.3
15°	1021.1	1021.1	1010.8	1000.5	996.7
17.5°	990.2	989.0	976.1	965.8	960.7
20°	956.8	954.3	941.4	924.7	915.7
22.5°	919.6	919.6	904.2	882.4	873.4
25°	884.9	879.8	865.7	834.8	811.7
27.5°	845.1	837.4	822.0	778.3	751.4
30°	801.4	797.6	775.8	719.2	698.7
32.5°	760.3	753.9	730.8	671.7	655.0
35°	718.0	712.8	678.1	626.8	611.4
37.5°	675.6	669.2	625.5	584.4	565.1
40°	633.2	625.5	578.0	540.7	520.2
42.5°	593.4	583.1	536.9	497.0	473.9
45°	551.0	539.4	493.2	452.1	434.1
47.5°	508.6	498.3	455.9	413.6	393.0
50°	463.7	454.7	416.1	373.7	351.9
52.5°	426.4	412.3	375.0	332.6	314.7
55°	382.7	371.2	336.5	296.7	281.3
57.5°	342.9	331.4	299.3	262.0	249.2
60°	305.7	289.0	262.0	229.9	219.6
62.5°	264.6	251.7	228.6	201.6	214.5
65°	227.3	214.5	193.9	197.8	164.4
67.5°	186.2	179.8	161.8	143.8	138.7
70°	151.6	143.8	137.4	118.2	113.0
72.5°	120.7	113.0	104.0	93.8	89.9
75°	91.2	84.8	79.6	75.8	83.5
77.5°	62.9	60.4	56.5	52.7	51.4
80°	41.1	39.8	38.5	37.2	36.0
82.5°	24.4	24.4	24.4	24.4	24.4
85°	12.8	14.1	15.4	16.7	18.0
87.5°	7.7	7.7	9.0	10.3	11.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)