

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: P564141

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564141
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-24-4-LD4-4STD-40-UNV-93-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15659.0 lumens
Efficiency: N/A
Efficacy: 117.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

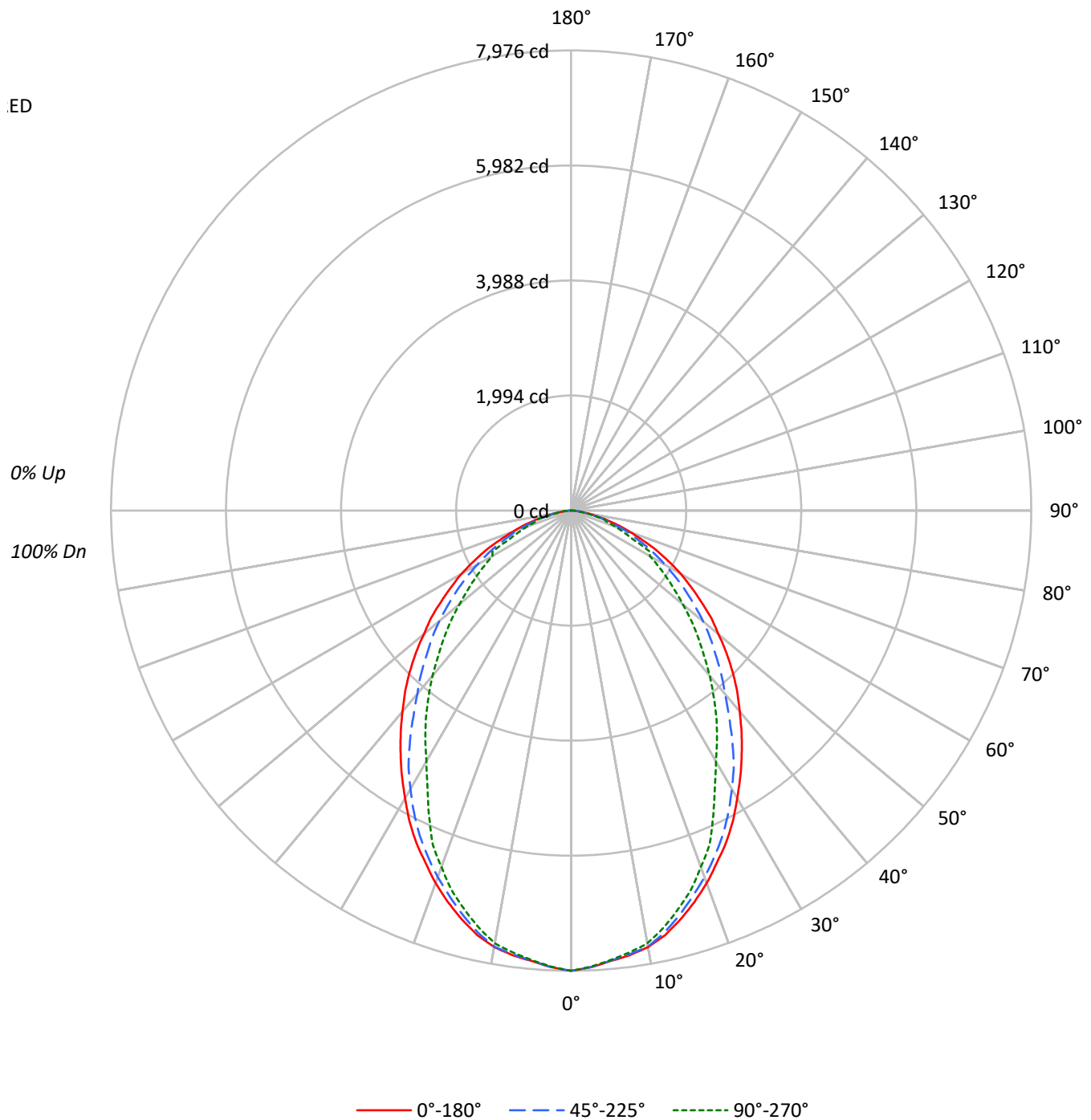
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10732	10732	10732
5°	10586	10574	10562
10°	10495	10482	10407
15°	10212	10109	9968
20°	9837	9678	9414
25°	9432	9227	8652
30°	8940	8653	7794
35°	8467	7997	7210
40°	7985	7288	6560
45°	7528	6738	5931
50°	6968	6254	5289
55°	6446	5667	4737
60°	5906	5062	4243
65°	5196	4433	3758
70°	4281	3882	3192
75°	3404	2972	3116
80°	2287	2143	2001
85°	1423	1709	1993

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7528 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	742.5	4.7
10°-20°	2037.7	13.0
20°-30°	2821.1	18.0
30°-40°	3008.1	19.2
40°-50°	2744.3	17.5
50°-60°	2149.9	13.7
60°-70°	1401.2	8.9
70°-80°	620.8	4.0
80°-90°	133.3	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°	5601.4	35.8
0°-40°	8609.5	55.0
0°-60°	13503.7	86.2
0°-90°	15659.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15659.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7976	7976	7976	7976	7976	
5°	7838	7829	7829	7820	7820	744
15°	7331	7331	7257	7183	7156	2061
25°	6354	6317	6215	5994	5828	2917
35°	5155	5118	4869	4500	4389	3223
45°	3956	3873	3541	3246	3117	3047
55°	2748	2665	2416	2130	2020	2465
65°	1632	1540	1392	1420	1180	1609
75°	655	609	572	544	599	702
85°	92	101	111	120	129	128
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7976.5	7976.5	7976.5	7976.5	7976.5
2.5°	7921.2	7921.2	7921.2	7911.9	7911.9
5°	7838.2	7828.9	7828.9	7819.7	7819.7
7.5°	7773.6	7764.4	7755.2	7746.0	7727.5
10°	7681.4	7681.4	7672.2	7626.1	7616.9
12.5°	7533.9	7524.6	7487.8	7423.2	7404.8
15°	7331.0	7331.0	7257.2	7183.4	7155.8
17.5°	7109.7	7100.5	7008.2	6934.5	6897.6
20°	6869.9	6851.5	6759.3	6639.4	6574.8
22.5°	6602.5	6602.5	6491.8	6335.1	6270.5
25°	6353.5	6316.6	6215.2	5993.9	5827.9
27.5°	6067.7	6012.3	5901.7	5588.2	5394.5
30°	5754.1	5726.5	5569.7	5164.0	5016.4
32.5°	5459.1	5412.9	5247.0	4822.8	4702.9
35°	5154.7	5117.9	4868.9	4500.0	4389.4
37.5°	4850.4	4804.3	4490.8	4195.7	4057.4
40°	4546.1	4490.8	4149.6	3882.2	3734.7
42.5°	4260.3	4186.5	3854.5	3568.7	3402.7
45°	3956.0	3873.0	3541.0	3245.9	3116.8
47.5°	3651.7	3577.9	3273.6	2969.3	2821.7
50°	3328.9	3264.4	2987.7	2683.4	2526.7
52.5°	3061.5	2960.1	2692.6	2388.3	2259.2
55°	2748.0	2665.0	2416.0	2130.1	2019.5
57.5°	2462.1	2379.1	2148.6	1881.2	1788.9
60°	2194.7	2074.8	1881.2	1650.6	1576.9
62.5°	1899.6	1807.4	1641.4	1447.8	1540.0
65°	1632.2	1540.0	1392.4	1420.1	1180.3
67.5°	1337.1	1291.0	1161.9	1032.8	995.9
70°	1088.1	1032.8	986.7	848.4	811.5
72.5°	866.8	811.5	746.9	673.2	645.5
75°	654.7	608.6	571.7	544.1	599.4
77.5°	451.8	433.4	405.7	378.1	368.9
80°	295.1	285.9	276.6	267.4	258.2
82.5°	175.2	175.2	175.2	175.2	175.2
85°	92.2	101.4	110.7	119.9	129.1
87.5°	55.3	55.3	64.5	73.8	83.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)