

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: P564130

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564130
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-93-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13010.0 lumens
Efficiency: N/A
Efficacy: 97.7 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

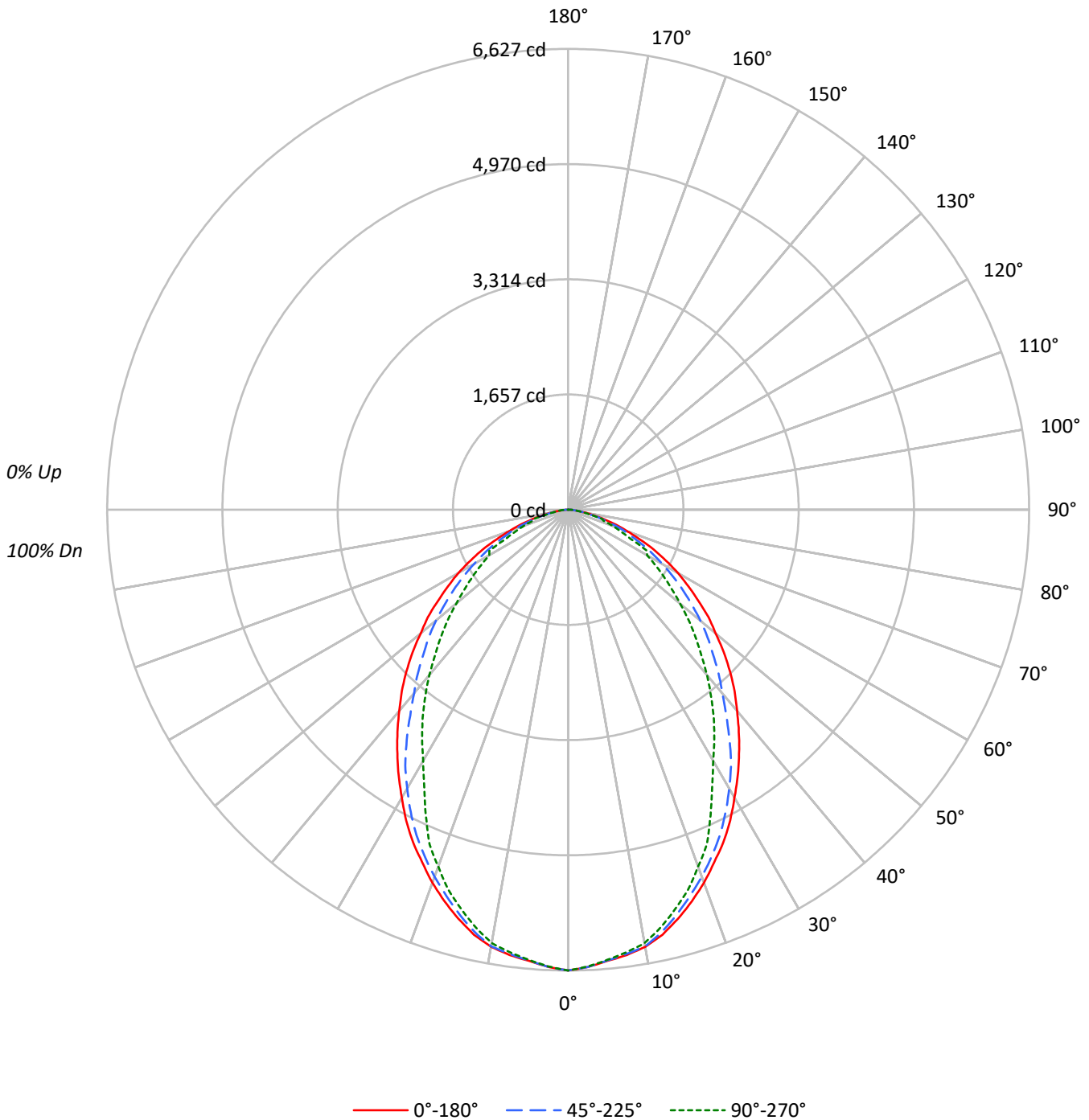
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8917	8917	8917
5°	8796	8785	8775
10°	8719	8709	8646
15°	8484	8399	8282
20°	8173	8041	7822
25°	7837	7666	7188
30°	7427	7189	6475
35°	7035	6644	5990
40°	6634	6055	5450
45°	6254	5598	4928
50°	5789	5196	4394
55°	5356	4709	3936
60°	4907	4206	3525
65°	4317	3683	3122
70°	3556	3225	2652
75°	2828	2469	2589
80°	1900	1781	1662
85°	1183	1419	1656

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6254 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	616.9	4.7
10°-20°	1693.0	13.0
20°-30°	2343.9	18.0
30°-40°	2499.2	19.2
40°-50°	2280.0	17.5
50°-60°	1786.2	13.7
60°-70°	1164.2	8.9
70°-80°	515.8	4.0
80°-90°	110.8	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°	4653.8	35.8
0°-40°	7153.0	55.0
0°-60°	11219.3	86.2
0°-90°	13010.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13010.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6627	6627	6627	6627	6627	
5°	6512	6504	6504	6497	6497	618
15°	6091	6091	6030	5968	5945	1712
25°	5279	5248	5164	4980	4842	2423
35°	4283	4252	4045	3739	3647	2677
45°	3287	3218	2942	2697	2590	2532
55°	2283	2214	2007	1770	1678	2048
65°	1356	1280	1157	1180	981	1336
75°	544	506	475	452	498	583
85°	77	84	92	100	107	106
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6627.1	6627.1	6627.1	6627.1	6627.1
2.5°	6581.2	6581.2	6581.2	6573.5	6573.5
5°	6512.2	6504.5	6504.5	6496.9	6496.9
7.5°	6458.6	6450.9	6443.2	6435.6	6420.3
10°	6382.0	6382.0	6374.3	6336.0	6328.3
12.5°	6259.4	6251.7	6221.1	6167.4	6152.1
15°	6090.8	6090.8	6029.5	5968.2	5945.3
17.5°	5906.9	5899.3	5822.7	5761.4	5730.7
20°	5707.8	5692.4	5615.8	5516.2	5462.6
22.5°	5485.6	5485.6	5393.6	5263.4	5209.8
25°	5278.7	5248.1	5163.8	4979.9	4842.0
27.5°	5041.2	4995.2	4903.3	4642.8	4481.9
30°	4780.7	4757.7	4627.5	4290.4	4167.8
32.5°	4535.6	4497.2	4359.3	4006.9	3907.3
35°	4282.7	4252.1	4045.2	3738.8	3646.8
37.5°	4029.9	3991.6	3731.1	3485.9	3371.0
40°	3777.1	3731.1	3447.6	3225.5	3102.9
42.5°	3539.6	3478.3	3202.5	2965.0	2827.1
45°	3286.7	3217.8	2942.0	2696.8	2589.6
47.5°	3033.9	2972.6	2719.8	2467.0	2344.4
50°	2765.8	2712.1	2482.3	2229.5	2099.2
52.5°	2543.6	2459.3	2237.1	1984.3	1877.0
55°	2283.1	2214.1	2007.3	1769.8	1677.8
57.5°	2045.6	1976.6	1785.1	1562.9	1486.3
60°	1823.4	1723.8	1562.9	1371.4	1310.1
62.5°	1578.3	1501.6	1363.7	1202.8	1279.5
65°	1356.1	1279.5	1156.9	1179.9	980.7
67.5°	1110.9	1072.6	965.3	858.1	827.4
70°	904.0	858.1	819.8	704.8	674.2
72.5°	720.2	674.2	620.6	559.3	536.3
75°	544.0	505.7	475.0	452.0	498.0
77.5°	375.4	360.1	337.1	314.1	306.5
80°	245.2	237.5	229.8	222.2	214.5
82.5°	145.6	145.6	145.6	145.6	145.6
85°	76.6	84.3	91.9	99.6	107.3
87.5°	46.0	46.0	53.6	61.3	69.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)