

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: P564072

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564072
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-35-UNV-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11051.0 lumens
Efficiency: N/A
Efficacy: 83.0 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

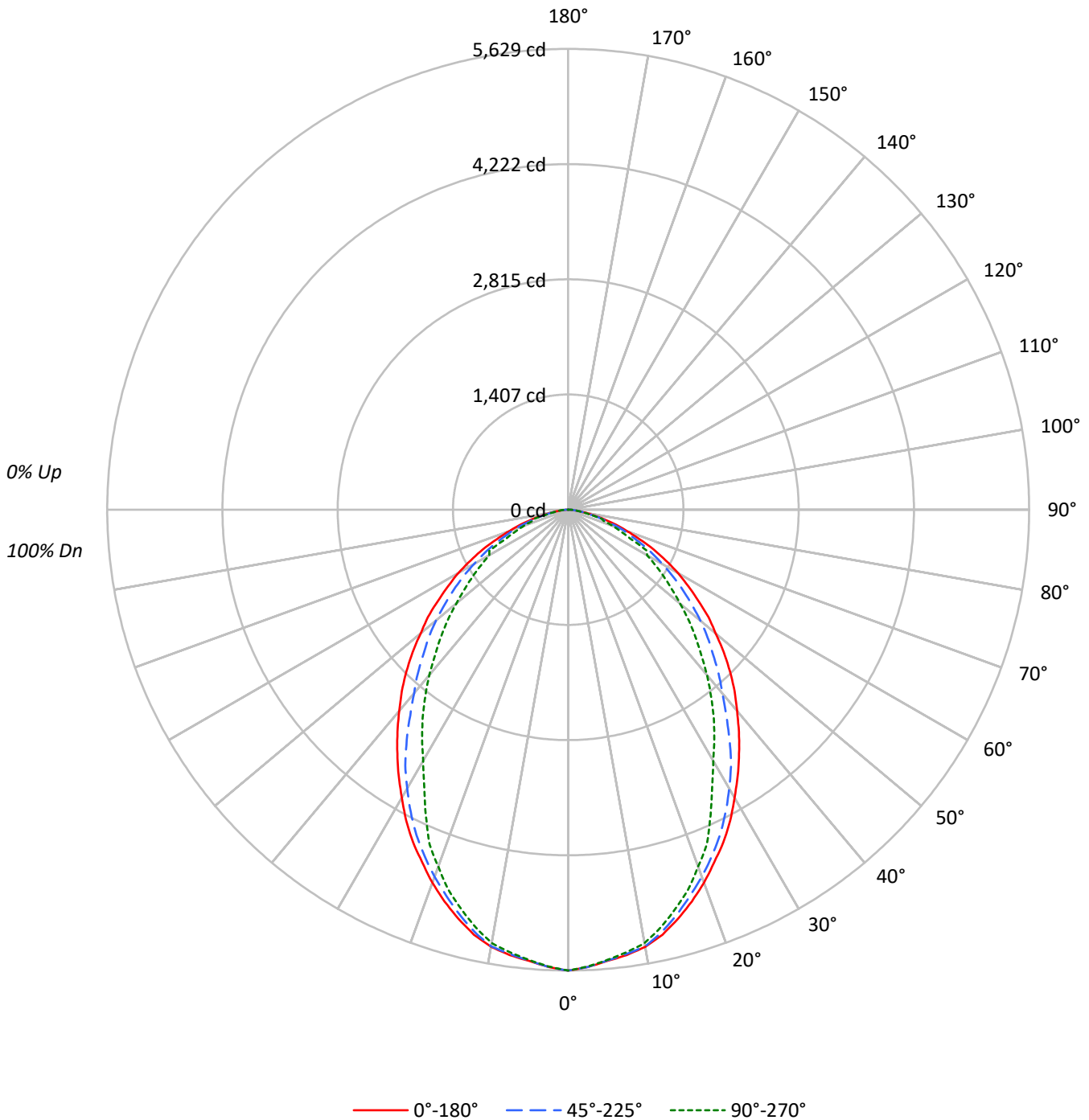
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7574	7574	7574
5°	7471	7462	7454
10°	7406	7398	7344
15°	7207	7134	7034
20°	6942	6830	6644
25°	6657	6512	6106
30°	6309	6107	5500
35°	5975	5644	5088
40°	5635	5144	4629
45°	5312	4755	4185
50°	4918	4414	3732
55°	4549	4000	3343
60°	4168	3573	2995
65°	3667	3129	2652
70°	3021	2739	2253
75°	2402	2098	2199
80°	1613	1512	1412
85°	1005	1206	1406

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5312 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	524.0	4.7
10°-20°	1438.1	13.0
20°-30°	1990.9	18.0
30°-40°	2122.9	19.2
40°-50°	1936.7	17.5
50°-60°	1517.3	13.7
60°-70°	988.9	8.9
70°-80°	438.1	4.0
80°-90°	94.1	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°	3953.0	35.8
0°-40°	6076.0	55.0
0°-60°	9529.9	86.2
0°-90°	11051.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11051.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5629	5629	5629	5629	5629	
5°	5532	5525	5525	5519	5519	525
15°	5174	5174	5122	5070	5050	1454
25°	4484	4458	4386	4230	4113	2059
35°	3638	3612	3436	3176	3098	2274
45°	2792	2733	2499	2291	2200	2151
55°	1939	1881	1705	1503	1425	1739
65°	1152	1087	983	1002	833	1135
75°	462	430	404	384	423	495
85°	65	72	78	85	91	90
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5629.2	5629.2	5629.2	5629.2	5629.2
2.5°	5590.2	5590.2	5590.2	5583.7	5583.7
5°	5531.6	5525.1	5525.1	5518.6	5518.6
7.5°	5486.1	5479.6	5473.0	5466.5	5453.5
10°	5421.0	5421.0	5414.5	5381.9	5375.4
12.5°	5316.9	5310.4	5284.3	5238.8	5225.7
15°	5173.7	5173.7	5121.6	5069.6	5050.0
17.5°	5017.5	5011.0	4945.9	4893.9	4867.8
20°	4848.3	4835.3	4770.2	4685.6	4640.0
22.5°	4659.6	4659.6	4581.5	4470.8	4425.3
25°	4483.9	4457.8	4386.2	4230.1	4112.9
27.5°	4282.1	4243.1	4165.0	3943.7	3807.1
30°	4060.9	4041.3	3930.7	3644.4	3540.2
32.5°	3852.6	3820.1	3702.9	3403.6	3319.0
35°	3637.9	3611.8	3436.1	3175.8	3097.7
37.5°	3423.1	3390.6	3169.3	2961.0	2863.4
40°	3208.3	3169.3	2928.5	2739.8	2635.7
42.5°	3006.6	2954.5	2720.3	2518.5	2401.4
45°	2791.8	2733.3	2499.0	2290.7	2199.6
47.5°	2577.1	2525.0	2310.3	2095.5	1991.4
50°	2349.3	2303.8	2108.5	1893.8	1783.1
52.5°	2160.6	2089.0	1900.3	1685.5	1594.4
55°	1939.3	1880.7	1705.0	1503.3	1425.2
57.5°	1737.6	1679.0	1516.3	1327.6	1262.5
60°	1548.9	1464.3	1327.6	1164.9	1112.8
62.5°	1340.6	1275.5	1158.4	1021.7	1086.8
65°	1151.9	1086.8	982.7	1002.2	833.0
67.5°	943.6	911.1	820.0	728.9	702.8
70°	767.9	728.9	696.3	598.7	572.7
72.5°	611.7	572.7	527.1	475.1	455.5
75°	462.1	429.5	403.5	384.0	423.0
77.5°	318.9	305.9	286.3	266.8	260.3
80°	208.2	201.7	195.2	188.7	182.2
82.5°	123.6	123.6	123.6	123.6	123.6
85°	65.1	71.6	78.1	84.6	91.1
87.5°	39.0	39.0	45.6	52.1	58.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)