

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: P564129

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564129
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-93-84-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15797.0 lumens
Efficiency: N/A
Efficacy: 118.6 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

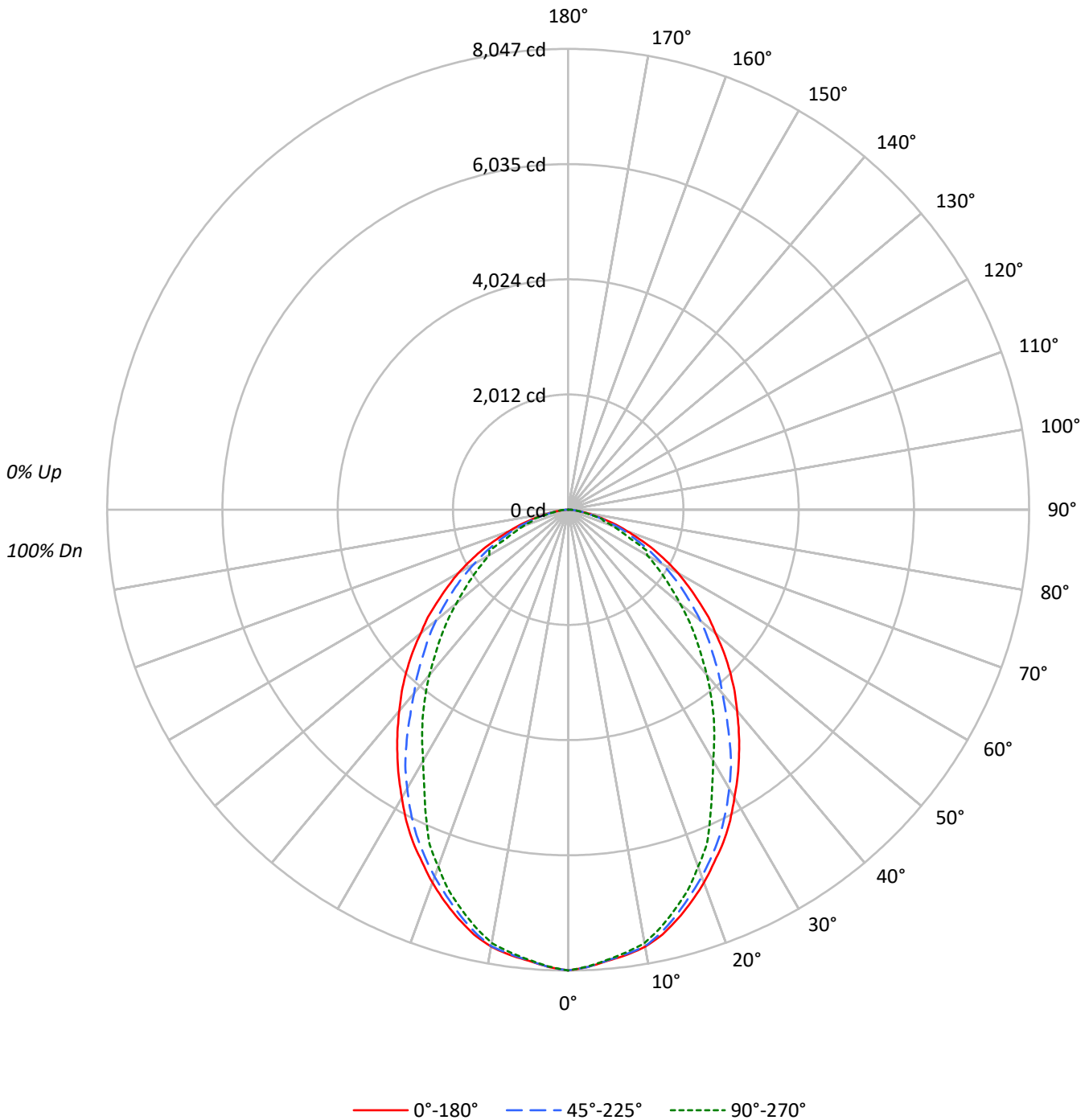
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10827	10827	10827
5°	10680	10667	10655
10°	10587	10574	10498
15°	10302	10198	10055
20°	9923	9763	9497
25°	9515	9308	8728
30°	9019	8730	7862
35°	8542	8068	7273
40°	8055	7353	6617
45°	7594	6797	5983
50°	7030	6309	5335
55°	6503	5717	4779
60°	5958	5107	4281
65°	5242	4472	3791
70°	4318	3916	3220
75°	3434	2999	3144
80°	2307	2163	2018
85°	1436	1723	2010

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7594 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	749.0	4.7
10°-20°	2055.7	13.0
20°-30°	2846.0	18.0
30°-40°	3034.6	19.2
40°-50°	2768.5	17.5
50°-60°	2168.9	13.7
60°-70°	1413.6	8.9
70°-80°	626.3	4.0
80°-90°	134.5	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°	5650.7	35.8
0°-40°	8685.4	55.0
0°-60°	13622.7	86.2
0°-90°	15797.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15797.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8047	8047	8047	8047	8047	
5°	7907	7898	7898	7889	7889	751
15°	7396	7396	7321	7247	7219	2079
25°	6410	6372	6270	6047	5879	2943
35°	5200	5163	4912	4540	4428	3251
45°	3991	3907	3572	3274	3144	3074
55°	2772	2688	2437	2149	2037	2486
65°	1647	1554	1405	1433	1191	1623
75°	660	614	577	549	605	708
85°	93	102	112	121	130	129
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8046.8	8046.8	8046.8	8046.8	8046.8
2.5°	7991.0	7991.0	7991.0	7981.7	7981.7
5°	7907.2	7897.9	7897.9	7888.6	7888.6
7.5°	7842.1	7832.8	7823.5	7814.2	7795.6
10°	7749.1	7749.1	7739.8	7693.3	7684.0
12.5°	7600.3	7591.0	7553.7	7488.6	7470.0
15°	7395.6	7395.6	7321.2	7246.8	7218.8
17.5°	7172.3	7163.0	7070.0	6995.6	6958.4
20°	6930.5	6911.9	6818.8	6697.9	6632.8
22.5°	6660.7	6660.7	6549.1	6390.9	6325.8
25°	6409.5	6372.3	6270.0	6046.7	5879.3
27.5°	6121.1	6065.3	5953.7	5637.4	5442.0
30°	5804.8	5776.9	5618.8	5209.5	5060.6
32.5°	5507.2	5460.6	5293.2	4865.3	4744.3
35°	5200.2	5163.0	4911.8	4539.7	4428.1
37.5°	4893.2	4846.7	4530.4	4232.7	4093.2
40°	4586.2	4530.4	4186.2	3916.4	3767.6
42.5°	4297.8	4223.4	3888.5	3600.1	3432.7
45°	3990.8	3907.1	3572.2	3274.5	3144.3
47.5°	3683.8	3609.4	3302.4	2995.4	2846.6
50°	3358.3	3293.1	3014.1	2707.1	2548.9
52.5°	3088.5	2986.1	2716.4	2409.4	2279.1
55°	2772.2	2688.5	2437.3	2148.9	2037.3
57.5°	2483.8	2400.1	2167.5	1897.7	1804.7
60°	2214.0	2093.1	1897.7	1665.2	1590.8
62.5°	1916.3	1823.3	1655.9	1460.5	1553.5
65°	1646.6	1553.5	1404.7	1432.6	1190.7
67.5°	1348.9	1302.4	1172.1	1041.9	1004.7
70°	1097.7	1041.9	995.4	855.8	818.6
72.5°	874.4	818.6	753.5	679.1	651.2
75°	660.5	614.0	576.8	548.9	604.7
77.5°	455.8	437.2	409.3	381.4	372.1
80°	297.7	288.4	279.1	269.8	260.5
82.5°	176.8	176.8	176.8	176.8	176.8
85°	93.0	102.3	111.6	120.9	130.2
87.5°	55.8	55.8	65.1	74.4	83.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)