

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: P563809

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563809
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-LD4-4HI-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19705.0 lumens
Efficiency: N/A
Efficacy: 114.0 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

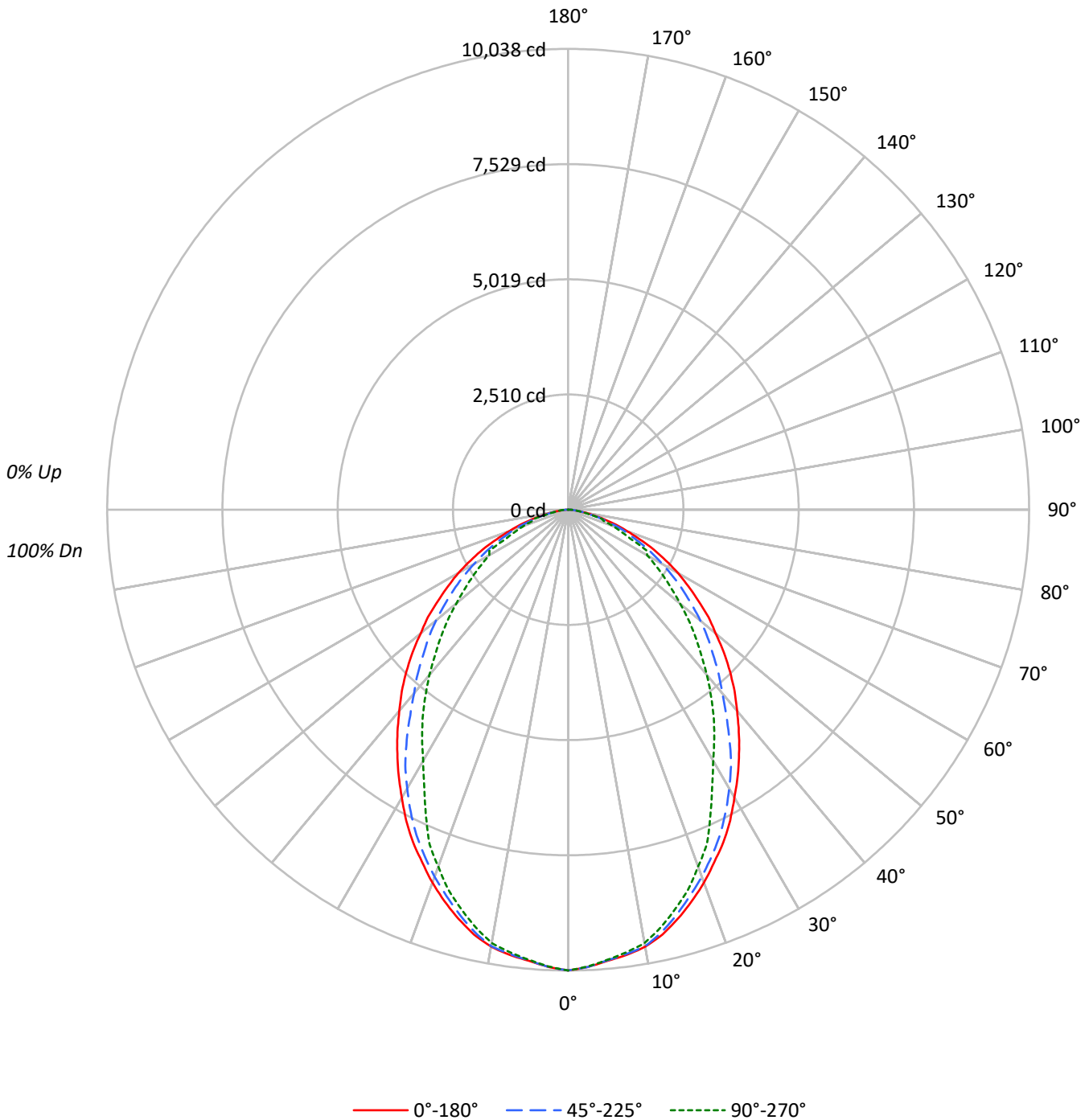
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	13505	13505	13505
5°	13322	13306	13290
10°	13206	13190	13095
15°	12850	12721	12543
20°	12378	12179	11847
25°	11870	11611	10887
30°	11250	10889	9807
35°	10654	10064	9073
40°	10048	9172	8254
45°	9472	8479	7463
50°	8768	7870	6655
55°	8112	7132	5961
60°	7432	6370	5340
65°	6539	5578	4729
70°	5387	4884	4017
75°	4283	3740	3921
80°	2877	2697	2517
85°	1791	2149	2509

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9472 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	934.4	4.7
10°-20°	2564.3	13.0
20°-30°	3550.0	18.0
30°-40°	3785.4	19.2
40°-50°	3453.4	17.5
50°-60°	2705.4	13.7
60°-70°	1763.3	8.9
70°-80°	781.2	4.0
80°-90°	167.7	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°	7048.6	35.8
0°-40°	10834.0	55.0
0°-60°	16992.8	86.2
0°-90°	19705.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19705.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	10038	10038	10038	10038	10038	
5°	9863	9852	9852	9840	9840	936
15°	9225	9225	9132	9040	9005	2593
25°	7995	7949	7821	7543	7334	3671
35°	6487	6440	6127	5663	5524	4055
45°	4978	4874	4456	4085	3922	3835
55°	3458	3354	3040	2680	2541	3102
65°	2054	1938	1752	1787	1485	2024
75°	824	766	719	685	754	883
85°	116	128	139	151	162	161
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	10037.5	10037.5	10037.5	10037.5	10037.5
2.5°	9967.8	9967.8	9967.8	9956.2	9956.2
5°	9863.4	9851.8	9851.8	9840.2	9840.2
7.5°	9782.2	9770.6	9759.0	9747.4	9724.2
10°	9666.1	9666.1	9654.5	9596.5	9584.9
12.5°	9480.5	9468.9	9422.5	9341.2	9318.0
15°	9225.2	9225.2	9132.4	9039.5	9004.7
17.5°	8946.7	8935.1	8819.0	8726.2	8679.8
20°	8645.0	8621.8	8505.7	8354.9	8273.7
22.5°	8308.5	8308.5	8169.2	7972.0	7890.7
25°	7995.2	7948.7	7821.1	7542.6	7333.7
27.5°	7635.4	7565.8	7426.6	7032.0	6788.3
30°	7240.9	7206.1	7008.8	6498.2	6312.6
32.5°	6869.6	6811.6	6602.7	6068.9	5918.0
35°	6486.6	6440.2	6126.9	5662.8	5523.5
37.5°	6103.7	6045.7	5651.2	5279.8	5105.8
40°	5720.8	5651.2	5221.8	4885.3	4699.6
42.5°	5361.0	5268.2	4850.5	4490.7	4281.9
45°	4978.1	4873.7	4455.9	4084.6	3922.2
47.5°	4595.2	4502.4	4119.4	3736.5	3550.8
50°	4189.0	4107.8	3759.7	3376.8	3179.5
52.5°	3852.5	3724.9	3388.4	3005.4	2843.0
55°	3458.0	3353.6	3040.2	2680.5	2541.3
57.5°	3098.3	2993.8	2703.7	2367.2	2251.2
60°	2761.8	2610.9	2367.2	2077.1	1984.3
62.5°	2390.4	2274.4	2065.5	1821.8	1937.9
65°	2053.9	1937.9	1752.2	1787.0	1485.3
67.5°	1682.6	1624.6	1462.1	1299.6	1253.2
70°	1369.3	1299.6	1241.6	1067.6	1021.2
72.5°	1090.8	1021.2	939.9	847.1	812.3
75°	823.9	765.9	719.4	684.6	754.3
77.5°	568.6	545.4	510.6	475.8	464.2
80°	371.3	359.7	348.1	336.5	324.9
82.5°	220.5	220.5	220.5	220.5	220.5
85°	116.0	127.6	139.2	150.9	162.5
87.5°	69.6	69.6	81.2	92.8	104.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)