

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: P564045

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564045
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-81-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14699.0 lumens
Efficiency: N/A
Efficacy: 110.4 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

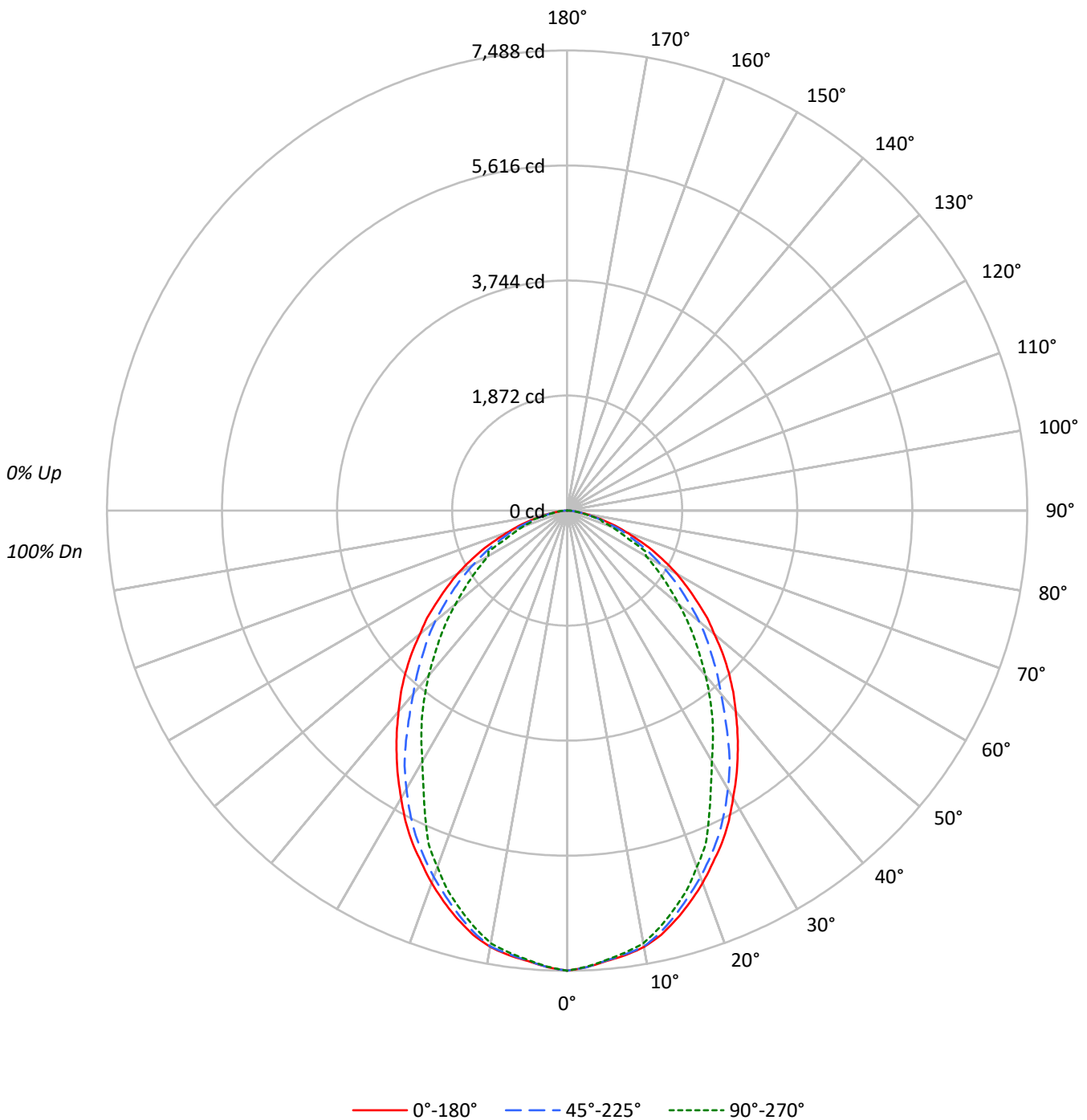
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10074	10074	10074
5°	9937	9926	9914
10°	9851	9839	9769
15°	9586	9489	9357
20°	9234	9085	8837
25°	8854	8661	8122
30°	8392	8123	7316
35°	7948	7507	6768
40°	7495	6842	6157
45°	7066	6325	5567
50°	6541	5871	4965
55°	6051	5320	4447
60°	5544	4752	3983
65°	4878	4161	3528
70°	4018	3644	2996
75°	3195	2790	2925
80°	2146	2012	1878
85°	1337	1604	1871

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7066 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	697.0	4.7
10°-20°	1912.8	13.0
20°-30°	2648.2	18.0
30°-40°	2823.7	19.2
40°-50°	2576.0	17.5
50°-60°	2018.1	13.7
60°-70°	1315.3	8.9
70°-80°	582.7	4.0
80°-90°	125.1	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°	5258.0	35.8
0°-40°	8081.7	55.0
0°-60°	12675.8	86.2
0°-90°	14699.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14699.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7488	7488	7488	7488	7488	
5°	7358	7349	7349	7340	7340	698
15°	6882	6882	6812	6743	6717	1935
25°	5964	5929	5834	5626	5471	2738
35°	4839	4804	4570	4224	4120	3025
45°	3713	3636	3324	3047	2926	2860
55°	2580	2502	2268	2000	1896	2314
65°	1532	1446	1307	1333	1108	1510
75°	615	571	537	511	563	659
85°	87	95	104	112	121	120
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7487.5	7487.5	7487.5	7487.5	7487.5
2.5°	7435.5	7435.5	7435.5	7426.9	7426.9
5°	7357.6	7349.0	7349.0	7340.3	7340.3
7.5°	7297.0	7288.4	7279.7	7271.1	7253.8
10°	7210.5	7210.5	7201.8	7158.5	7149.9
12.5°	7072.0	7063.3	7028.7	6968.1	6950.8
15°	6881.6	6881.6	6812.3	6743.1	6717.1
17.5°	6673.8	6665.2	6578.6	6509.3	6474.7
20°	6448.7	6431.4	6344.9	6232.3	6171.8
22.5°	6197.7	6197.7	6093.9	5946.7	5886.1
25°	5964.0	5929.4	5834.2	5626.4	5470.6
27.5°	5695.7	5643.7	5539.9	5245.6	5063.8
30°	5401.4	5375.4	5228.2	4847.4	4708.9
32.5°	5124.4	5081.1	4925.3	4527.1	4414.6
35°	4838.7	4804.1	4570.4	4224.1	4120.3
37.5°	4553.1	4509.8	4215.5	3938.5	3808.7
40°	4267.4	4215.5	3895.2	3644.2	3505.7
42.5°	3999.1	3929.8	3618.2	3349.9	3194.1
45°	3713.4	3635.5	3323.9	3046.9	2925.7
47.5°	3427.8	3358.5	3072.9	2787.2	2648.7
50°	3124.8	3064.2	2804.6	2518.9	2371.8
52.5°	2873.8	2778.6	2527.6	2241.9	2120.7
55°	2579.5	2501.6	2267.9	1999.5	1895.7
57.5°	2311.2	2233.3	2016.9	1765.8	1679.3
60°	2060.1	1947.6	1765.8	1549.4	1480.2
62.5°	1783.1	1696.6	1540.8	1359.0	1445.6
65°	1532.1	1445.6	1307.1	1333.0	1108.0
67.5°	1255.1	1211.8	1090.7	969.5	934.9
70°	1021.4	969.5	926.2	796.4	761.7
72.5°	813.7	761.7	701.1	631.9	605.9
75°	614.6	571.3	536.7	510.7	562.6
77.5°	424.1	406.8	380.9	354.9	346.2
80°	277.0	268.3	259.7	251.0	242.4
82.5°	164.5	164.5	164.5	164.5	164.5
85°	86.6	95.2	103.9	112.5	121.2
87.5°	51.9	51.9	60.6	69.2	77.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)