

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: P562404

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562404
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-LD4-1STD-40-UNV-93-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3216.0 lumens
Efficiency: N/A
Efficacy: 96.6 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

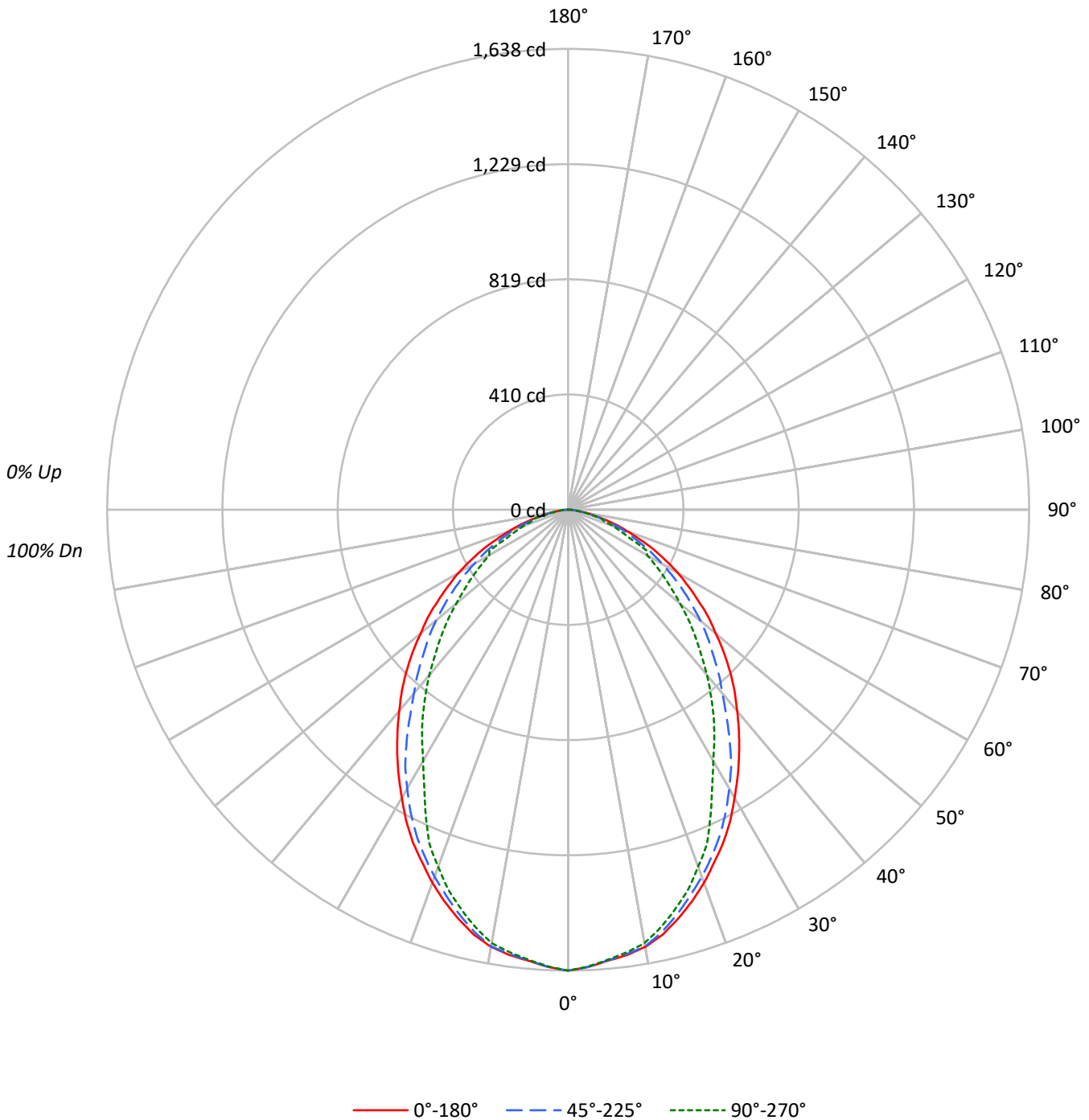
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2204	2204	2204
5°	2174	2172	2169
10°	2155	2153	2137
15°	2097	2076	2047
20°	2020	1988	1933
25°	1937	1895	1777
30°	1836	1777	1601
35°	1739	1643	1481
40°	1640	1497	1347
45°	1546	1384	1218
50°	1431	1284	1086
55°	1324	1164	973
60°	1213	1040	871
65°	1067	911	772
70°	879	797	656
75°	699	610	640
80°	470	440	411
85°	292	350	409

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1546 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.5	4.7
10°-20°	418.5	13.0
20°-30°	579.4	18.0
30°-40°	617.8	19.2
40°-50°	563.6	17.5
50°-60°	441.5	13.7
60°-70°	287.8	8.9
70°-80°	127.5	4.0
80°-90°	27.4	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°	1150.4	35.8
0°-40°	1768.2	55.0
0°-60°	2773.3	86.2
0°-90°	3216.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3216.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1638	1638	1638	1638	1638	
5°	1610	1608	1608	1606	1606	153
15°	1506	1506	1490	1475	1470	423
25°	1305	1297	1276	1231	1197	599
35°	1059	1051	1000	924	902	662
45°	812	795	727	667	640	626
55°	564	547	496	438	415	506
65°	335	316	286	292	242	330
75°	134	125	117	112	123	144
85°	19	21	23	25	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1638.2	1638.2	1638.2	1638.2	1638.2
2.5°	1626.8	1626.8	1626.8	1624.9	1624.9
5°	1609.8	1607.9	1607.9	1606.0	1606.0
7.5°	1596.5	1594.6	1592.7	1590.8	1587.1
10°	1577.6	1577.6	1575.7	1566.2	1564.3
12.5°	1547.3	1545.4	1537.8	1524.6	1520.8
15°	1505.6	1505.6	1490.5	1475.3	1469.6
17.5°	1460.2	1458.3	1439.3	1424.2	1416.6
20°	1410.9	1407.1	1388.2	1363.6	1350.3
22.5°	1356.0	1356.0	1333.3	1301.1	1287.8
25°	1304.9	1297.3	1276.5	1231.0	1196.9
27.5°	1246.2	1234.8	1212.1	1147.7	1107.9
30°	1181.8	1176.1	1143.9	1060.6	1030.3
32.5°	1121.2	1111.7	1077.6	990.5	965.9
35°	1058.7	1051.1	1000.0	924.2	901.5
37.5°	996.2	986.7	922.3	861.7	833.3
40°	933.7	922.3	852.2	797.3	767.0
42.5°	875.0	859.8	791.6	732.9	698.8
45°	812.5	795.4	727.2	666.6	640.1
47.5°	750.0	734.8	672.3	609.8	579.5
50°	683.7	670.4	613.6	551.1	518.9
52.5°	628.8	607.9	553.0	490.5	464.0
55°	564.4	547.3	496.2	437.5	414.8
57.5°	505.7	488.6	441.3	386.3	367.4
60°	450.7	426.1	386.3	339.0	323.8
62.5°	390.1	371.2	337.1	297.3	316.3
65°	335.2	316.3	286.0	291.7	242.4
67.5°	274.6	265.1	238.6	212.1	204.5
70°	223.5	212.1	202.6	174.2	166.7
72.5°	178.0	166.7	153.4	138.3	132.6
75°	134.5	125.0	117.4	111.7	123.1
77.5°	92.8	89.0	83.3	77.6	75.8
80°	60.6	58.7	56.8	54.9	53.0
82.5°	36.0	36.0	36.0	36.0	36.0
85°	18.9	20.8	22.7	24.6	26.5
87.5°	11.4	11.4	13.3	15.2	17.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)