

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: NEO-RAY

Report Number: P1055753

Luminaire Tested: S123R3DR-H340D930-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055753
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H340D930-X4F0-XX-UDD-FLL-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

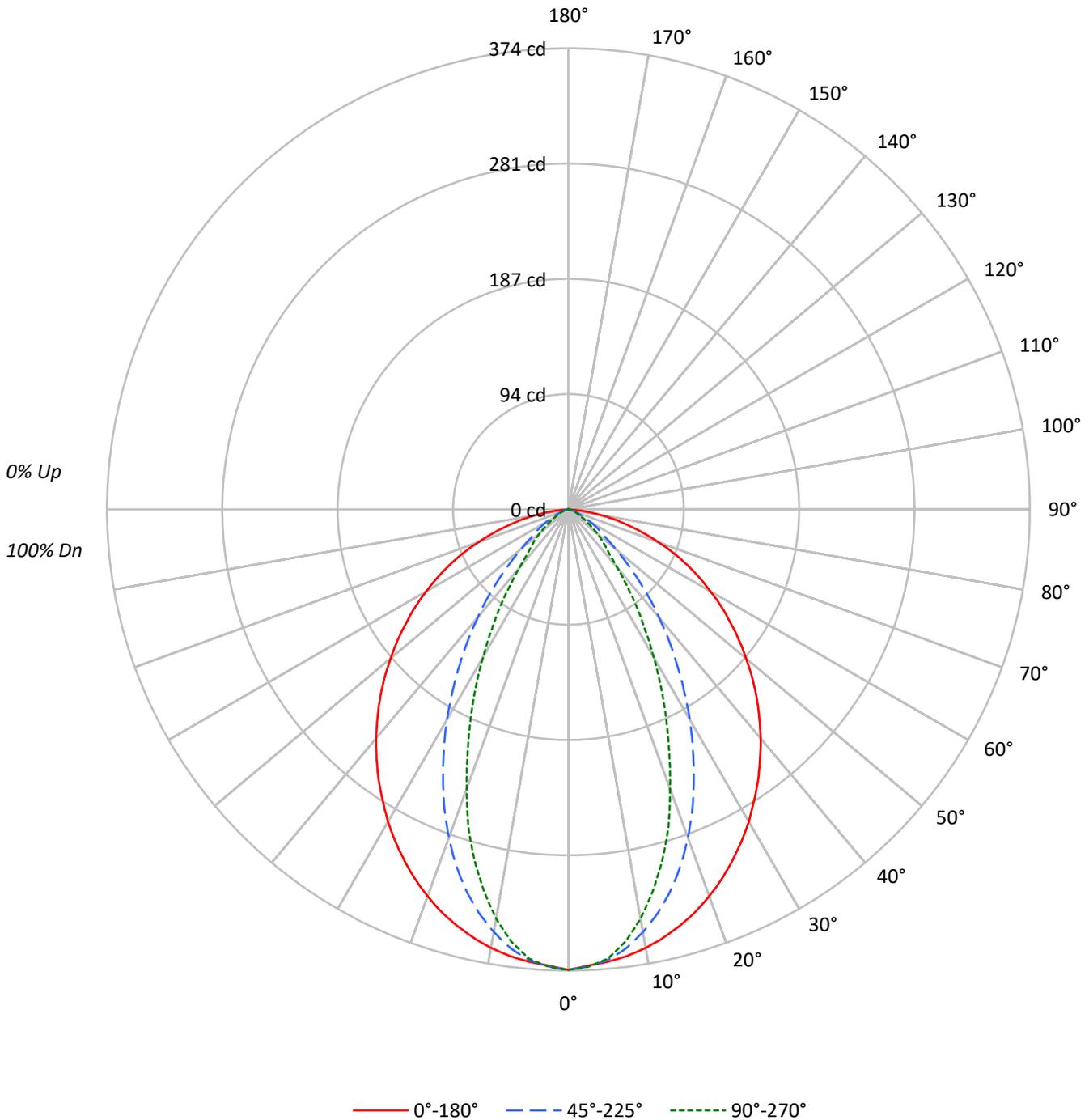
Lumens per Lamp: N/A
Luminaire Lumens: 519.4 lumens
Efficiency: N/A
Efficacy: 44.4 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (A_{in}): 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4503	4503	4503
5°	4456	4438	4426
10°	4421	4260	4126
15°	4361	3994	3672
20°	4283	3634	3093
25°	4181	3198	2496
30°	4071	2740	1923
35°	3944	2261	1422
40°	3817	1799	969
45°	3676	1345	730
50°	3526	936	570
55°	3372	685	416
60°	3209	511	299
65°	3018	342	231
70°	2732	250	187
75°	2357	182	149
80°	1895	146	125
85°	982	152	97

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3676 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.5	6.6
10°-20°	89.9	17.3
20°-30°	112.9	21.7
30°-40°	105.2	20.2
40°-50°	80.5	15.5
50°-60°	53.5	10.3
60°-70°	28.8	5.6
70°-80°	11.8	2.3
80°-90°	2.3	0.4
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°	237.3	45.7
0°-40°	342.5	65.9
0°-60°	476.5	91.7
0°-90°	519.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	519.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	374	374	374	374	374	
5°	368	372	367	365	366	35
15°	349	344	320	301	294	98
25°	314	293	240	200	188	145
35°	268	228	154	109	97	168
45°	216	159	79	46	43	166
55°	160	93	33	23	20	144
65°	106	36	12	9	8	105
75°	51	8	4	4	3	54
85°	7	1	1	1	1	10
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	373.5	373.5	373.5	373.5	373.5
2.5°	370.3	374.9	371.0	371.3	371.3
5°	368.2	372.0	366.7	365.3	365.7
7.5°	365.3	367.8	359.0	354.3	353.6
10°	361.1	361.8	348.0	339.8	337.0
12.5°	355.8	353.3	335.2	321.8	316.5
15°	349.4	343.7	320.0	301.3	294.2
17.5°	342.3	332.8	302.7	278.2	269.7
20°	333.8	320.4	283.2	252.8	241.1
22.5°	324.6	307.3	262.7	226.6	213.5
25°	314.3	293.1	240.4	200.4	187.6
27.5°	303.7	277.9	218.4	175.6	162.5
30°	292.4	262.3	196.8	151.5	138.1
32.5°	280.0	245.3	174.5	129.2	115.8
35°	268.0	228.3	153.6	108.7	96.6
37.5°	255.2	211.3	133.5	90.6	77.2
40°	242.5	194.0	114.3	72.9	61.6
42.5°	229.0	176.6	96.3	58.1	49.2
45°	215.6	159.3	78.9	46.4	42.8
47.5°	202.1	142.0	63.7	40.0	36.5
50°	188.0	125.3	49.9	34.0	30.4
52.5°	174.5	108.7	38.9	28.0	24.8
55°	160.4	92.7	32.6	22.7	19.8
57.5°	147.3	76.5	26.9	17.7	15.6
60°	133.1	61.9	21.2	13.8	12.4
62.5°	119.7	48.5	16.3	11.0	9.9
65°	105.8	35.8	12.0	8.8	8.1
67.5°	92.0	25.8	9.2	7.1	6.7
70°	77.5	19.5	7.1	5.7	5.3
72.5°	63.7	13.8	5.3	4.6	4.2
75°	50.6	8.5	3.9	3.5	3.2
77.5°	38.9	5.0	2.8	2.8	2.5
80°	27.3	2.8	2.1	2.1	1.8
82.5°	16.6	1.8	1.4	1.4	1.4
85°	7.1	1.1	1.1	1.1	0.7
87.5°	1.1	0.4	0.4	0.4	0.4
90°	0.0	0.0	0.0	0.0	0.0

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	15.04	16.40	15.41	16.71	17.03	3.62	4.97	3.98	5.29	5.60
	3H	16.79	18.00	17.17	18.33	18.69	4.28	5.48	4.66	5.81	6.18
	4H	17.49	18.62	17.90	18.97	19.35	4.47	5.60	4.88	5.95	6.33
	6H	18.01	19.04	18.42	19.41	19.80	4.60	5.63	5.01	6.00	6.39
	8H	18.15	19.13	18.58	19.52	19.92	4.63	5.61	5.06	6.00	6.41
	12H	18.20	19.13	18.63	19.52	19.95	4.64	5.58	5.07	5.96	6.39
4H	2H	14.85	15.98	15.25	16.33	16.71	4.17	5.29	4.57	5.64	6.03
	3H	16.64	17.56	17.05	17.97	18.37	4.97	5.89	5.38	6.29	6.70
	4H	17.34	18.16	17.77	18.58	19.02	5.22	6.05	5.66	6.47	6.91
	6H	17.91	18.62	18.37	19.06	19.53	5.42	6.13	5.88	6.58	7.04
	8H	18.08	18.74	18.55	19.19	19.66	5.47	6.14	5.94	6.58	7.05
	12H	18.17	18.75	18.65	19.24	19.71	5.51	6.09	5.99	6.57	7.05
8H	4H	17.21	17.88	17.68	18.32	18.79	5.54	6.20	6.01	6.65	7.12
	6H	17.77	18.31	18.27	18.80	19.28	5.78	6.32	6.28	6.82	7.30
	8H	17.94	18.43	18.46	18.94	19.43	5.87	6.35	6.39	6.87	7.36
	12H	18.05	18.48	18.56	18.97	19.54	5.95	6.38	6.46	6.87	7.44
12H	4H	17.17	17.76	17.66	18.24	18.71	5.58	6.17	6.07	6.65	7.12
	6H	17.71	18.19	18.23	18.71	19.20	5.83	6.31	6.35	6.83	7.32
	8H	17.90	18.33	18.42	18.83	19.40	5.95	6.38	6.47	6.88	7.45