

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



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055756

Luminaire Tested: S123R3DR-H340D935-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055756
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-H340D935-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

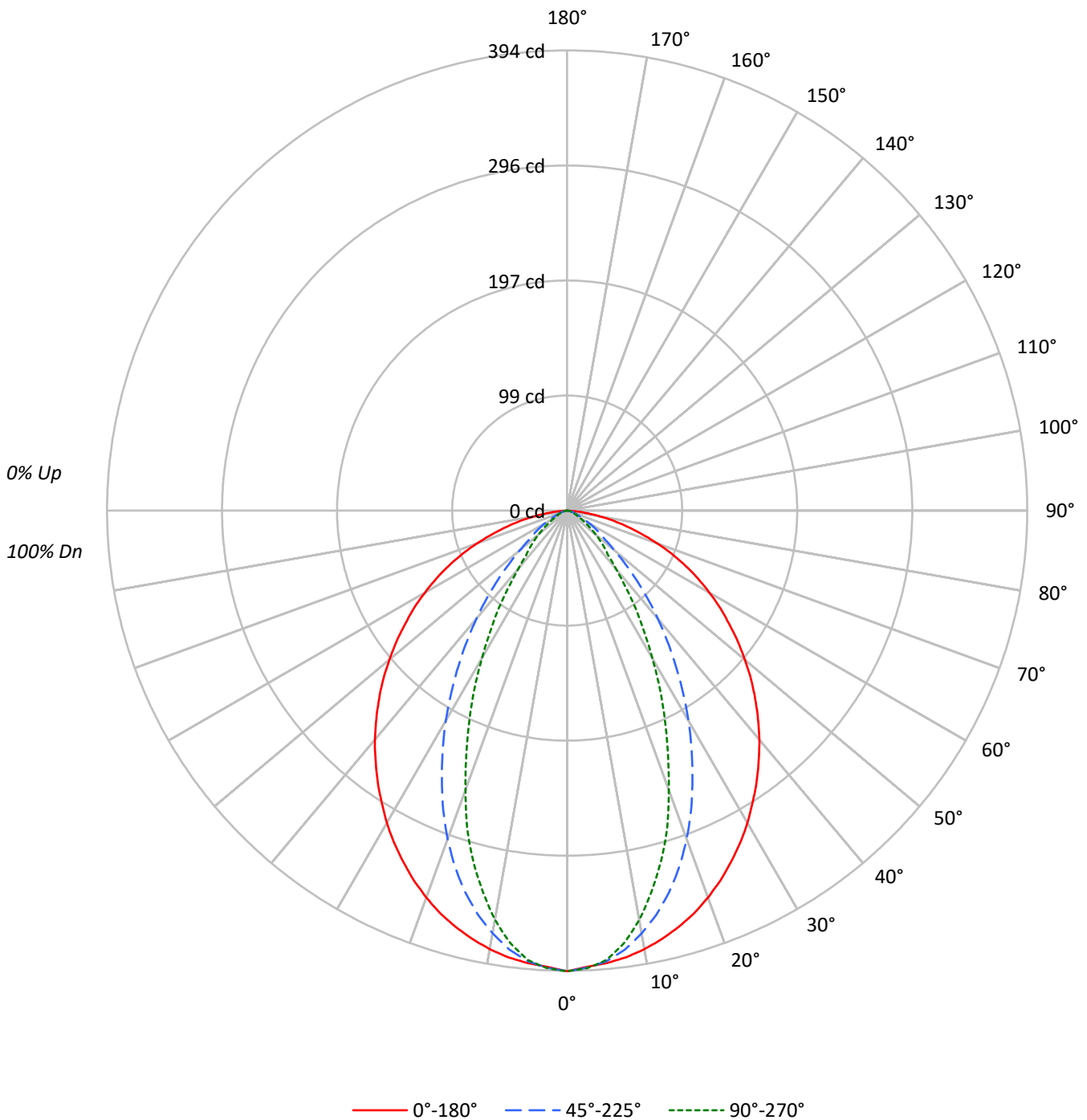
Lumens per Lamp: N/A
Luminaire Lumens: 548.5 lumens
Efficiency: N/A
Efficacy: 46.9 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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	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	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79					79			
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70					70			
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62					62			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51					51			
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46					46			
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42					42			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39					39			
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36					36			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4755	4755	4755
5°	4705	4687	4674
10°	4668	4499	4357
15°	4606	4218	3878
20°	4523	3838	3267
25°	4417	3376	2635
30°	4299	2894	2030
35°	4165	2387	1503
40°	4031	1900	1023
45°	3882	1422	771
50°	3723	988	604
55°	3559	723	439
60°	3390	540	316
65°	3189	362	245
70°	2887	264	197
75°	2492	191	158
80°	2000	153	132
85°	1037	152	97

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3882 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.5	6.6
10°-20°	94.9	17.3
20°-30°	119.2	21.7
30°-40°	111.1	20.2
40°-50°	85.0	15.5
50°-60°	56.5	10.3
60°-70°	30.5	5.6
70°-80°	12.5	2.3
80°-90°	2.4	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°	250.6	45.7
0°-40°	361.6	65.9
0°-60°	503.1	91.7
0°-90°	548.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	548.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	394	394	394	394	394	
5°	389	393	387	386	386	37
15°	369	363	338	318	311	104
25°	332	310	254	212	198	153
35°	283	241	162	115	102	177
45°	228	168	83	49	45	176
55°	169	98	34	24	21	152
65°	112	38	13	9	9	110
75°	54	9	4	4	3	57
85°	8	1	1	1	1	11
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	394.4	394.4	394.4	394.4	394.4
2.5°	391.0	395.9	391.8	392.2	392.2
5°	388.8	392.9	387.3	385.8	386.2
7.5°	385.8	388.4	379.1	374.2	373.5
10°	381.3	382.1	367.5	358.9	355.9
12.5°	375.7	373.1	354.0	339.8	334.2
15°	369.0	363.0	337.9	318.1	310.7
17.5°	361.5	351.4	319.6	293.8	284.9
20°	352.5	338.3	299.1	266.9	254.6
22.5°	342.8	324.5	277.4	239.3	225.4
25°	332.0	309.5	253.8	211.6	198.1
27.5°	320.8	293.5	230.7	185.4	171.6
30°	308.8	277.0	207.9	160.0	145.8
32.5°	295.7	259.1	184.3	136.5	122.2
35°	283.0	241.1	162.2	114.8	102.1
37.5°	269.5	223.2	140.9	95.7	81.5
40°	256.1	204.9	120.7	77.0	65.0
42.5°	241.9	186.5	101.7	61.3	52.0
45°	227.7	168.2	83.4	49.0	45.2
47.5°	213.5	149.9	67.3	42.2	38.5
50°	198.5	132.3	52.7	35.9	32.2
52.5°	184.3	114.8	41.1	29.5	26.2
55°	169.3	97.9	34.4	23.9	20.9
57.5°	155.5	80.7	28.4	18.7	16.4
60°	140.6	65.4	22.4	14.6	13.1
62.5°	126.4	51.2	17.2	11.6	10.5
65°	111.8	37.8	12.7	9.3	8.6
67.5°	97.2	27.3	9.7	7.5	7.1
70°	81.9	20.6	7.5	6.0	5.6
72.5°	67.3	14.6	5.6	4.9	4.5
75°	53.5	9.0	4.1	3.7	3.4
77.5°	41.1	5.2	3.0	3.0	2.6
80°	28.8	3.0	2.2	2.2	1.9
82.5°	17.6	1.9	1.5	1.5	1.5
85°	7.5	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	15.23	16.58	15.59	16.90	17.21	3.80	5.16	4.17	5.47	5.79
	3H	16.98	18.19	17.36	18.52	18.88	4.47	5.67	4.85	6.00	6.37
	4H	17.68	18.81	18.09	19.16	19.54	4.67	5.79	5.07	6.14	6.52
	6H	18.20	19.23	18.61	19.60	19.99	4.79	5.82	5.20	6.19	6.58
	8H	18.34	19.32	18.77	19.71	20.11	4.82	5.80	5.25	6.19	6.60
	12H	18.39	19.32	18.82	19.71	20.14	4.83	5.77	5.26	6.15	6.58
4H	2H	15.04	16.16	15.44	16.51	16.89	4.36	5.48	4.76	5.83	6.22
	3H	16.83	17.75	17.24	18.15	18.56	5.16	6.08	5.57	6.49	6.89
	4H	17.53	18.35	17.96	18.77	19.21	5.42	6.24	5.85	6.66	7.10
	6H	18.10	18.81	18.56	19.25	19.72	5.61	6.33	6.08	6.77	7.24
	8H	18.27	18.93	18.74	19.38	19.85	5.67	6.33	6.14	6.78	7.25
	12H	18.36	18.94	18.84	19.43	19.90	5.70	6.28	6.18	6.77	7.24
8H	4H	17.40	18.07	17.87	18.51	18.98	5.73	6.40	6.20	6.84	7.31
	6H	17.96	18.50	18.46	18.99	19.47	5.98	6.52	6.48	7.01	7.49
	8H	18.13	18.62	18.65	19.13	19.62	6.06	6.55	6.59	7.06	7.56
	12H	18.24	18.67	18.75	19.16	19.73	6.14	6.57	6.65	7.06	7.63
12H	4H	17.36	17.95	17.85	18.43	18.90	5.78	6.36	6.26	6.85	7.32
	6H	17.90	18.38	18.42	18.90	19.39	6.02	6.51	6.54	7.02	7.51
	8H	18.09	18.52	18.61	19.02	19.59	6.15	6.58	6.66	7.07	7.64