

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: P1055783

Luminaire Tested: S123R3DR-H560D935-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055783
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-H560D935-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

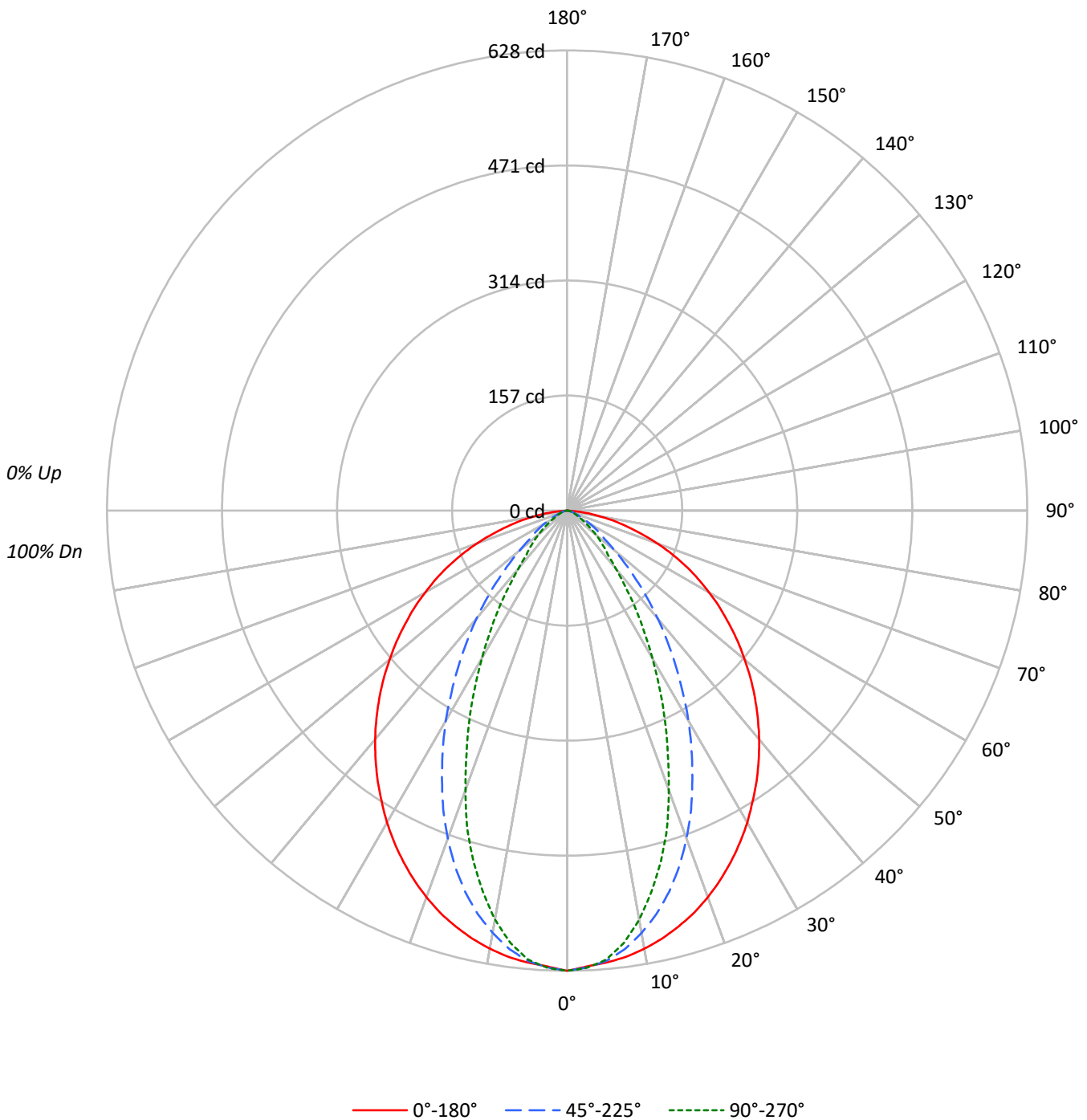
Lumens per Lamp: N/A
Luminaire Lumens: 873.5 lumens
Efficiency: N/A
Efficacy: 50.5 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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	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	61	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°	7573	7573	7573
5°	7493	7465	7443
10°	7434	7164	6939
15°	7334	6718	6175
20°	7203	6111	5201
25°	7033	5377	4197
30°	6845	4608	3233
35°	6633	3803	2392
40°	6418	3027	1631
45°	6182	2264	1228
50°	5929	1574	960
55°	5669	1152	700
60°	5396	861	502
65°	5078	576	391
70°	4597	419	314
75°	3964	303	252
80°	3180	250	208
85°	1646	249	166

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6182 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.1	6.6
10°-20°	151.1	17.3
20°-30°	189.9	21.7
30°-40°	176.8	20.2
40°-50°	135.4	15.5
50°-60°	90.0	10.3
60°-70°	48.5	5.6
70°-80°	19.9	2.3
80°-90°	3.8	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°	399.1	45.7
0°-40°	575.9	65.9
0°-60°	801.3	91.7
0°-90°	873.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	873.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	628	628	628	628	628	
5°	619	626	617	614	615	59
15°	588	578	538	507	495	166
25°	529	493	404	337	316	243
35°	451	384	258	183	162	282
45°	363	268	133	78	72	280
55°	270	156	55	38	33	242
65°	178	60	20	15	14	176
75°	85	14	6	6	5	91
85°	12	2	2	2	1	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	628.1	628.1	628.1	628.1	628.1
2.5°	622.7	630.5	623.9	624.5	624.5
5°	619.1	625.7	616.8	614.4	615.0
7.5°	614.4	618.6	603.7	595.9	594.7
10°	607.2	608.4	585.2	571.5	566.8
12.5°	598.3	594.1	563.8	541.2	532.2
15°	587.6	578.1	538.2	506.6	494.7
17.5°	575.7	559.6	509.0	467.9	453.6
20°	561.4	538.8	476.3	425.1	405.4
22.5°	545.9	516.8	441.7	381.0	359.0
25°	528.7	492.9	404.2	337.0	315.5
27.5°	510.8	467.3	367.3	295.3	273.3
30°	491.7	441.1	331.0	254.8	232.2
32.5°	470.9	412.6	293.5	217.3	194.7
35°	450.7	384.0	258.4	182.8	162.5
37.5°	429.2	355.4	224.4	152.4	129.8
40°	407.8	326.2	192.3	122.6	103.6
42.5°	385.2	297.1	161.9	97.6	82.8
45°	362.6	267.9	132.8	78.0	72.0
47.5°	339.9	238.7	107.2	67.3	61.3
50°	316.1	210.7	83.9	57.2	51.2
52.5°	293.5	182.8	65.5	47.0	41.7
55°	269.7	156.0	54.8	38.1	33.3
57.5°	247.7	128.6	45.2	29.8	26.2
60°	223.8	104.2	35.7	23.2	20.8
62.5°	201.2	81.6	27.4	18.5	16.7
65°	178.0	60.1	20.2	14.9	13.7
67.5°	154.8	43.5	15.5	11.9	11.3
70°	130.4	32.7	11.9	9.5	8.9
72.5°	107.2	23.2	8.9	7.7	7.1
75°	85.1	14.3	6.5	6.0	5.4
77.5°	65.5	8.3	4.8	4.8	4.2
80°	45.8	4.8	3.6	3.6	3.0
82.5°	28.0	3.0	2.4	2.4	2.4
85°	11.9	1.8	1.8	1.8	1.2
87.5°	1.8	0.6	0.6	0.6	0.6
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	16.85	18.20	17.21	18.52	18.83	5.43	6.78	5.79	7.10	7.41
	3H	18.60	19.81	18.98	20.14	20.50	6.09	7.29	6.46	7.62	7.98
	4H	19.30	20.42	19.70	20.77	21.16	6.28	7.41	6.69	7.76	8.14
	6H	19.81	20.85	20.23	21.22	21.61	6.41	7.44	6.82	7.81	8.20
	8H	19.95	20.93	20.38	21.32	21.73	6.44	7.42	6.87	7.81	8.22
	12H	20.00	20.94	20.44	21.32	21.75	6.45	7.39	6.89	7.77	8.20
4H	2H	16.66	17.78	17.06	18.13	18.51	5.98	7.10	6.38	7.45	7.84
	3H	18.45	19.37	18.86	19.77	20.17	6.77	7.69	7.19	8.10	8.50
	4H	19.14	19.97	19.58	20.38	20.83	7.04	7.86	7.47	8.28	8.72
	6H	19.71	20.42	20.17	20.87	21.33	7.24	7.95	7.70	8.39	8.86
	8H	19.89	20.55	20.36	21.00	21.47	7.29	7.95	7.76	8.40	8.87
	12H	19.97	20.56	20.46	21.04	21.52	7.33	7.91	7.81	8.39	8.87
8H	4H	19.02	19.68	19.49	20.13	20.60	7.35	8.01	7.82	8.46	8.93
	6H	19.57	20.11	20.07	20.61	21.09	7.60	8.14	8.10	8.64	9.12
	8H	19.75	20.23	20.27	20.75	21.24	7.69	8.18	8.21	8.69	9.18
	12H	19.85	20.28	20.37	20.78	21.35	7.77	8.20	8.29	8.70	9.27
12H	4H	18.98	19.56	19.46	20.04	20.52	7.39	7.98	7.88	8.46	8.94
	6H	19.51	20.00	20.04	20.52	21.01	7.65	8.13	8.17	8.65	9.14
	8H	19.71	20.14	20.22	20.63	21.20	7.78	8.20	8.29	8.70	9.27