

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: P1056167

Luminaire Tested: S124R3DR-H350D950-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056167
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-9)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-H350D950-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

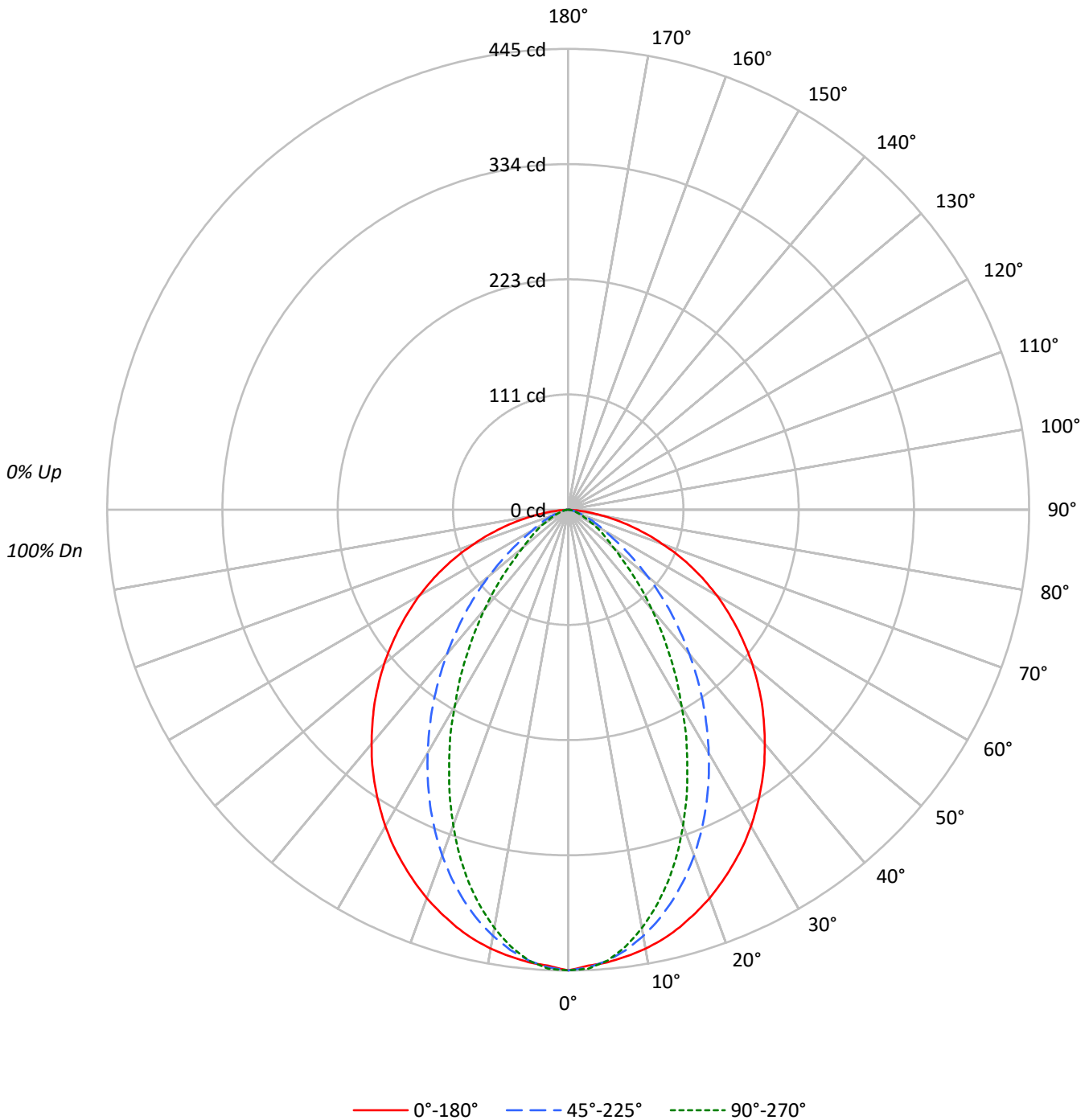
Lumens per Lamp: N/A
Luminaire Lumens: 719.3 lumens
Efficiency: N/A
Efficacy: 61.5 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1056167

CATALOG NUMBER: S124R3DR-H350D950-X4F0-XX-UDD-F-S

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	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89					89			
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78					78			
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68					68			
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62	60					60			
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54					54			
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	48					48			
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44					44			
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40					40			
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38	37					37			
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35	34					34			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3934	3934	3934
5°	3894	3878	3878
10°	3864	3752	3682
15°	3818	3572	3405
20°	3757	3344	3051
25°	3682	3075	2651
30°	3603	2770	2233
35°	3510	2446	1837
40°	3408	2098	1448
45°	3305	1746	1083
50°	3191	1373	792
55°	3064	1016	632
60°	2930	704	483
65°	2755	546	356
70°	2495	385	279
75°	2179	270	212
80°	1751	209	188
85°	964	172	172

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3305 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.3	5.7
10°-20°	110.3	15.3
20°-30°	147.1	20.4
30°-40°	148.1	20.6
40°-50°	121.4	16.9
50°-60°	83.0	11.5
60°-70°	46.4	6.4
70°-80°	18.4	2.6
80°-90°	3.5	0.5
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°	298.6	41.5
0°-40°	446.6	62.1
0°-60°	651.1	90.5
0°-90°	719.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	719.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	445	445	445	445	445	
5°	439	444	437	435	437	42
15°	417	413	390	376	372	118
25°	377	359	315	283	272	174
35°	325	291	227	184	170	203
45°	264	216	140	98	87	204
55°	199	140	66	44	41	178
65°	132	66	26	19	17	130
75°	64	17	8	7	6	68
85°	10	2	2	2	2	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	444.9	444.9	444.9	444.9	444.9
2.5°	440.7	446.1	442.4	442.8	443.6
5°	438.7	443.6	437.0	434.9	437.0
7.5°	434.9	438.7	428.7	424.6	425.4
10°	430.4	431.6	417.9	410.9	410.1
12.5°	424.6	422.9	405.1	394.8	392.3
15°	417.1	412.6	390.2	376.5	372.0
17.5°	408.4	400.6	373.6	355.8	349.2
20°	399.3	387.7	355.4	332.6	324.3
22.5°	388.5	374.0	335.9	308.2	298.7
25°	377.4	358.7	315.2	283.3	271.7
27.5°	365.8	343.0	293.7	258.1	246.5
30°	352.9	326.0	271.3	232.8	218.7
32.5°	339.2	308.6	248.9	207.9	194.7
35°	325.2	290.8	226.6	183.5	170.2
37.5°	310.7	272.6	204.2	160.3	147.0
40°	295.3	253.9	181.8	138.3	125.5
42.5°	279.6	234.9	160.3	117.6	105.6
45°	264.3	215.8	139.6	98.2	86.6
47.5°	248.1	196.8	119.3	79.9	70.0
50°	232.0	177.7	99.8	64.2	57.6
52.5°	215.4	158.6	82.0	52.6	48.0
55°	198.8	139.6	65.9	43.9	41.0
57.5°	182.3	120.5	50.9	37.3	34.0
60°	165.7	101.9	39.8	30.2	27.3
62.5°	148.7	83.3	32.7	24.0	21.5
65°	131.7	66.3	26.1	18.6	17.0
67.5°	114.7	50.5	19.9	14.5	13.3
70°	96.5	36.0	14.9	11.2	10.8
72.5°	80.8	24.4	10.8	8.7	8.3
75°	63.8	17.4	7.9	6.6	6.2
77.5°	49.3	11.2	5.8	5.4	5.0
80°	34.4	6.2	4.1	3.7	3.7
82.5°	21.1	3.3	2.9	2.5	2.5
85°	9.5	1.7	1.7	1.7	1.7
87.5°	1.7	0.8	0.8	0.8	0.8
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	15.48	16.89	15.85	17.20	17.52	6.58	7.98	6.94	8.30	8.61
	3H	17.07	18.32	17.45	18.65	19.01	7.17	8.42	7.55	8.75	9.11
	4H	17.66	18.83	18.06	19.18	19.56	7.33	8.49	7.73	8.84	9.23
	6H	18.09	19.17	18.51	19.54	19.93	7.43	8.51	7.85	8.88	9.27
	8H	18.21	19.23	18.64	19.62	20.02	7.45	8.47	7.88	8.86	9.27
	12H	18.25	19.22	18.68	19.61	20.04	7.46	8.44	7.89	8.82	9.25
4H	2H	15.34	16.50	15.74	16.85	17.24	7.16	8.33	7.56	8.68	9.06
	3H	16.98	17.94	17.39	18.34	18.75	7.87	8.83	8.28	9.23	9.64
	4H	17.59	18.45	18.02	18.86	19.31	8.07	8.93	8.51	9.35	9.79
	6H	18.08	18.82	18.54	19.27	19.73	8.24	8.98	8.70	9.43	9.89
	8H	18.22	18.92	18.69	19.36	19.83	8.27	8.97	8.74	9.41	9.88
	12H	18.30	18.91	18.78	19.39	19.86	8.30	8.91	8.79	9.40	9.87
8H	4H	17.48	18.17	17.95	18.62	19.09	8.35	9.04	8.81	9.48	9.95
	6H	17.96	18.53	18.46	19.02	19.50	8.55	9.12	9.05	9.61	10.09
	8H	18.11	18.62	18.63	19.13	19.62	8.61	9.11	9.13	9.63	10.12
	12H	18.20	18.65	18.71	19.14	19.71	8.67	9.12	9.18	9.61	10.18
12H	4H	17.44	18.06	17.93	18.54	19.01	8.37	8.99	8.86	9.47	9.94
	6H	17.91	18.42	18.43	18.93	19.42	8.58	9.09	9.10	9.60	10.09
	8H	18.07	18.52	18.59	19.01	19.58	8.67	9.12	9.18	9.61	10.18