

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: P1055707

Luminaire Tested: S123R3DR-H1000D950-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055707
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H1000D950-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

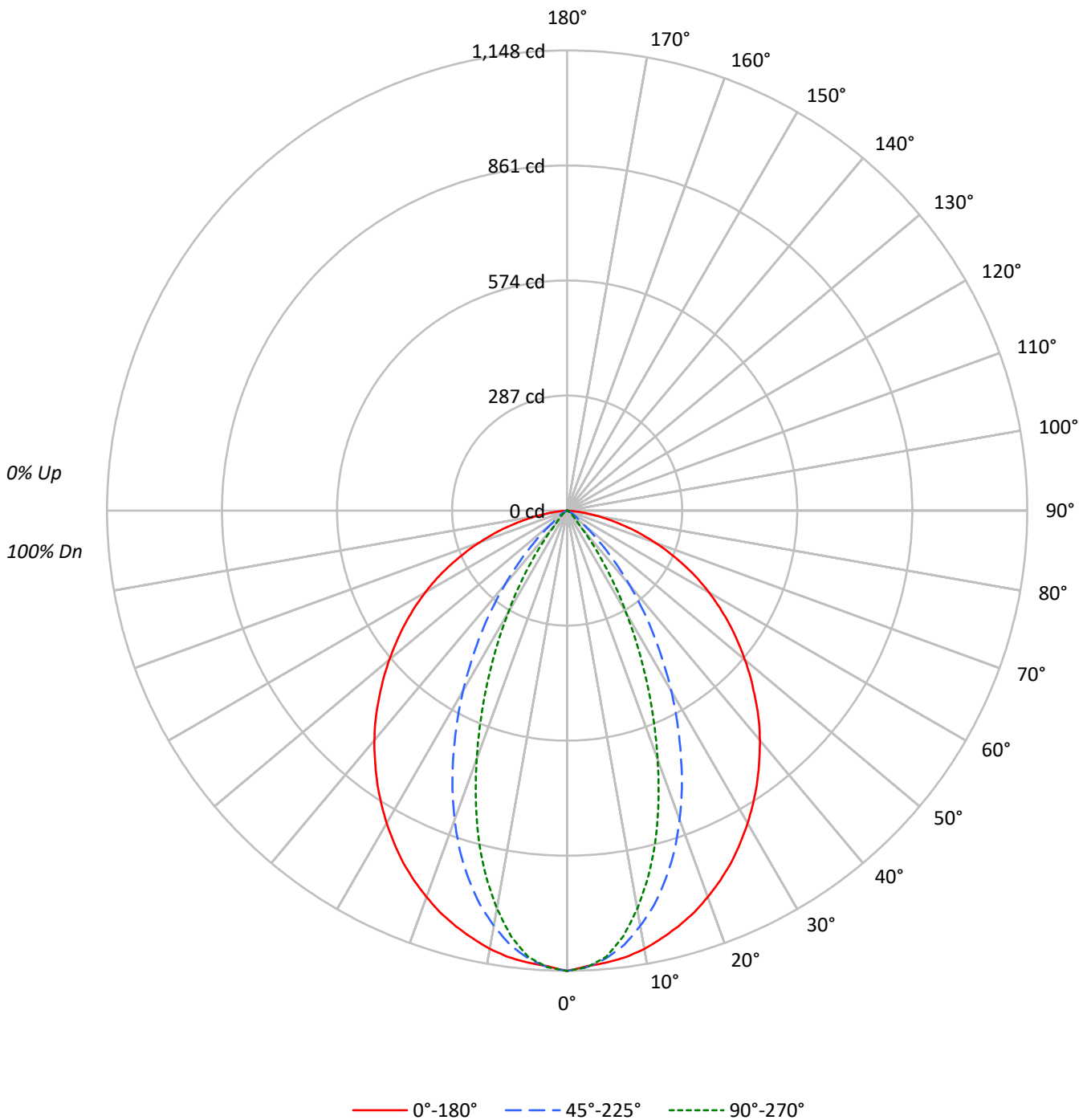
Lumens per Lamp: N/A
Luminaire Lumens: 1344.2 lumens
Efficiency: N/A
Efficacy: 43.5 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
Input Voltage (V): 120
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56	54
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13847	13847	13847
5°	13698	13568	13524
10°	13594	12879	12339
15°	13398	11866	10632
20°	13161	10532	8468
25°	12885	8923	6244
30°	12539	7231	4097
35°	12169	5506	2245
40°	11776	3807	768
45°	11315	2215	447
50°	10860	872	268
55°	10392	551	126
60°	9852	345	58
65°	9177	171	34
70°	8231	85	42
75°	6992	56	56
80°	5214	83	0
85°	1978	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11315 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.3	7.8
10°-20°	267.2	19.9
20°-30°	318.8	23.7
30°-40°	270.4	20.1
40°-50°	183.8	13.7
50°-60°	113.9	8.5
60°-70°	57.7	4.3
70°-80°	23.5	1.8
80°-90°	3.6	0.3
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°	691.3	51.4
0°-40°	961.7	71.5
0°-60°	1259.4	93.7
0°-90°	1344.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1344.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1148	1148	1148	1148	1148	
5°	1132	1142	1121	1113	1118	107
15°	1073	1046	951	876	852	303
25°	969	878	671	518	469	446
35°	827	664	374	201	152	517
45°	664	435	130	32	26	513
55°	494	219	26	10	6	442
65°	322	54	6	1	1	318
75°	150	10	1	1	1	160
85°	14	0	0	1	0	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1148.5	1148.5	1148.5	1148.5	1148.5
2.5°	1137.8	1153.3	1140.2	1139.0	1140.2
5°	1131.8	1142.5	1121.1	1112.8	1117.5
7.5°	1123.5	1128.3	1092.5	1071.1	1071.1
10°	1110.4	1106.8	1052.0	1016.3	1007.9
12.5°	1092.5	1078.2	1006.7	950.7	935.2
15°	1073.4	1046.0	950.7	875.7	851.8
17.5°	1052.0	1010.3	890.0	792.3	757.7
20°	1025.8	969.8	820.9	701.7	660.0
22.5°	998.4	925.7	748.2	608.8	562.3
25°	968.6	878.1	670.8	518.3	469.4
27.5°	935.2	828.0	594.5	431.3	377.7
30°	900.7	775.6	519.4	347.9	294.3
32.5°	863.8	720.8	444.4	271.6	221.6
35°	826.8	663.6	374.1	201.3	152.5
37.5°	787.5	606.4	306.2	139.4	96.5
40°	748.2	550.4	241.9	88.2	48.8
42.5°	707.7	492.0	183.5	44.1	33.4
45°	663.6	434.9	129.9	32.2	26.2
47.5°	621.9	380.1	85.8	26.2	20.3
50°	579.0	325.3	46.5	19.1	14.3
52.5°	536.1	272.8	33.4	14.3	9.5
55°	494.4	219.2	26.2	9.5	6.0
57.5°	451.5	172.8	20.3	6.0	3.6
60°	408.6	127.5	14.3	3.6	2.4
62.5°	365.8	88.2	9.5	2.4	1.2
65°	321.7	53.6	6.0	1.2	1.2
67.5°	276.4	36.9	3.6	1.2	1.2
70°	233.5	26.2	2.4	1.2	1.2
72.5°	190.6	16.7	1.2	1.2	0.0
75°	150.1	9.5	1.2	1.2	1.2
77.5°	110.8	3.6	1.2	1.2	0.0
80°	75.1	1.2	1.2	1.2	0.0
82.5°	41.7	0.0	1.2	1.2	0.0
85°	14.3	0.0	0.0	1.2	0.0
87.5°	0.0	0.0	0.0	1.2	0.0
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	18.18	19.46	18.54	19.77	20.09	0.00	0.00	0.00	0.00	0.00
	3H	20.12	21.26	20.50	21.59	21.95	0.00	0.00	0.00	0.00	0.00
	4H	20.95	22.01	21.35	22.36	22.74	0.00	0.00	0.00	0.00	0.00
	6H	21.50	22.47	21.92	22.84	23.24	0.00	0.00	0.00	0.00	0.00
	8H	21.63	22.55	22.06	22.94	23.34	0.00	0.00	0.00	0.00	0.00
	12H	21.65	22.53	22.09	22.91	23.34	0.00	0.00	0.00	0.00	0.00
4H	2H	17.94	19.00	18.35	19.35	19.73	0.00	0.00	0.00	0.00	0.00
	3H	19.90	20.76	20.31	21.16	21.57	0.00	0.00	0.00	0.00	0.00
	4H	20.71	21.48	21.14	21.90	22.34	0.00	0.00	0.00	0.00	0.00
	6H	21.31	21.97	21.77	22.42	22.89	0.00	0.00	0.00	0.00	0.00
	8H	21.46	22.08	21.93	22.53	23.00	0.00	0.00	0.00	0.00	0.00
	12H	21.51	22.05	22.00	22.54	23.01	0.00	0.00	0.00	0.00	0.00
8H	4H	20.57	21.18	21.04	21.63	22.10	0.00	0.00	0.00	0.00	0.00
	6H	21.15	21.65	21.65	22.15	22.63	0.00	0.00	0.00	0.00	0.00
	8H	21.30	21.75	21.82	22.26	22.76	0.00	0.00	0.00	0.00	0.00
	12H	21.36	21.75	21.87	22.25	22.82	0.00	0.00	0.00	0.00	0.00
12H	4H	20.52	21.06	21.00	21.55	22.02	0.00	0.00	0.00	0.00	0.00
	6H	21.09	21.54	21.61	22.05	22.54	0.00	0.00	0.00	0.00	0.00
	8H	21.25	21.65	21.77	22.14	22.72	0.00	0.00	0.00	0.00	0.00