

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: P1056113

Luminaire Tested: S124R3DR-H1020D950-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056113
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-H1020D950-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

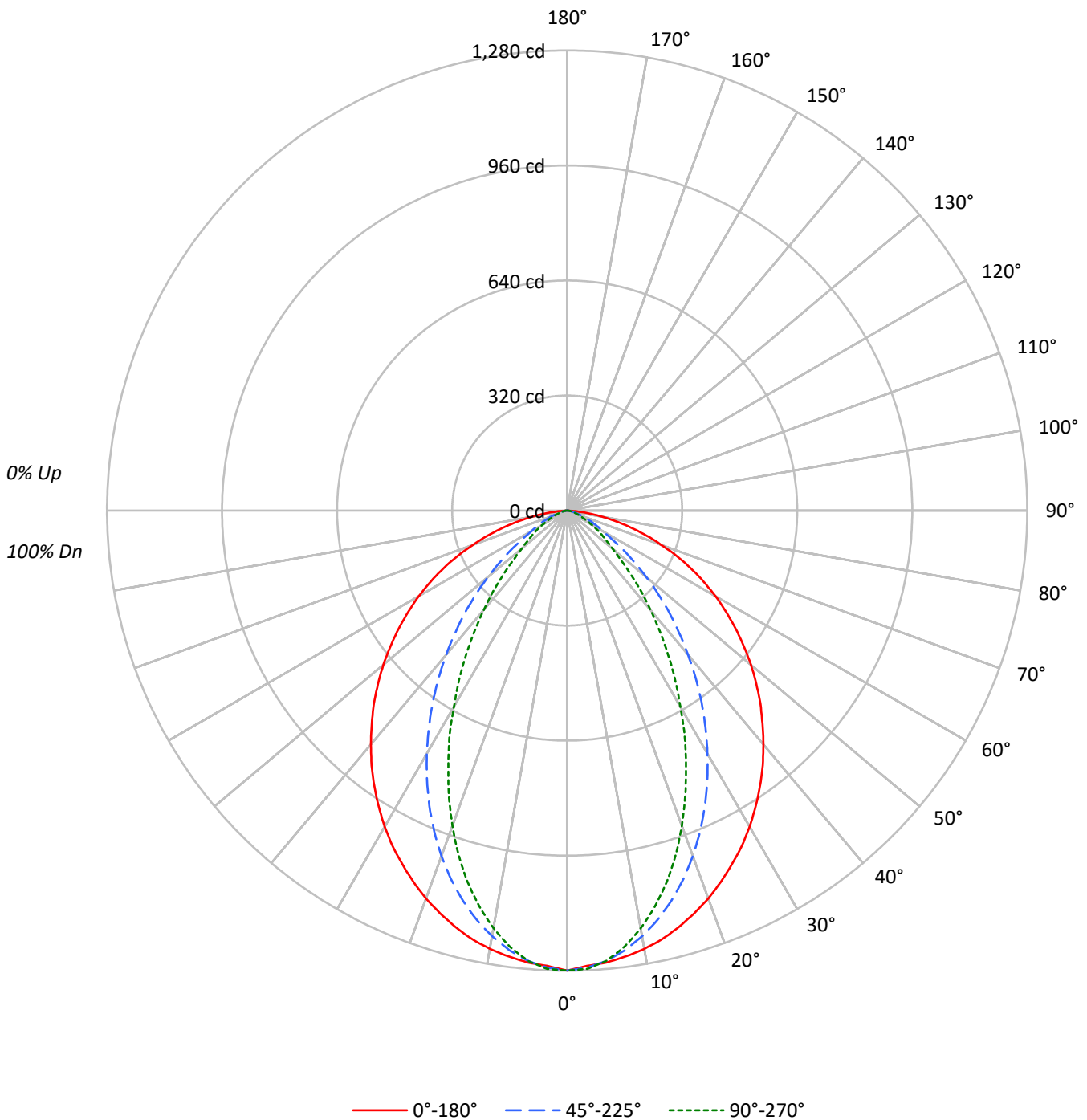
Lumens per Lamp: N/A
Luminaire Lumens: 2069.0 lumens
Efficiency: N/A
Efficacy: 67.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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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CATALOG NUMBER: S124R3DR-H1020D950-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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62	60
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	48
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38	37
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35	34

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11313	11313	11313
5°	11198	11155	11155
10°	11114	10792	10589
15°	10981	10273	9793
20°	10806	9618	8777
25°	10588	8845	7625
30°	10363	7967	6423
35°	10094	7034	5285
40°	9805	6036	4167
45°	9504	5020	3113
50°	9177	3949	2278
55°	8816	2920	1817
60°	8428	2023	1390
65°	7927	1571	1021
70°	7176	1109	801
75°	6268	772	611
80°	5036	606	545
85°	2780	487	487

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9504 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.7	5.7
10°-20°	317.1	15.3
20°-30°	423.0	20.4
30°-40°	425.9	20.6
40°-50°	349.2	16.9
50°-60°	238.7	11.5
60°-70°	133.4	6.4
70°-80°	52.9	2.6
80°-90°	10.0	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°	858.8	41.5
0°-40°	1284.7	62.1
0°-60°	1872.7	90.5
0°-90°	2069.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2069.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1280	1280	1280	1280	1280	
5°	1262	1276	1257	1251	1257	120
15°	1200	1187	1122	1083	1070	338
25°	1085	1032	907	815	782	500
35°	935	836	652	528	490	585
45°	760	621	402	282	249	586
55°	572	402	189	126	118	511
65°	379	191	75	54	49	374
75°	184	50	23	19	18	197
85°	27	5	5	5	5	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1279.6	1279.6	1279.6	1279.6	1279.6
2.5°	1267.6	1283.1	1272.4	1273.6	1276.0
5°	1261.7	1276.0	1256.9	1251.0	1256.9
7.5°	1251.0	1261.7	1233.1	1221.2	1223.6
10°	1237.9	1241.4	1202.1	1181.9	1179.5
12.5°	1221.2	1216.4	1165.2	1135.4	1128.3
15°	1199.7	1186.6	1122.3	1083.0	1069.9
17.5°	1174.7	1152.1	1074.6	1023.4	1004.3
20°	1148.5	1115.1	1022.2	956.7	932.9
22.5°	1117.5	1075.8	966.2	886.4	859.0
25°	1085.4	1031.8	906.7	814.9	781.6
27.5°	1052.0	986.5	844.7	742.2	708.9
30°	1015.1	937.6	780.4	669.6	629.1
32.5°	975.8	887.6	716.0	598.1	560.0
35°	935.2	836.4	651.7	527.8	489.7
37.5°	893.5	783.9	587.4	461.1	422.9
40°	849.5	730.3	523.0	397.9	361.0
42.5°	804.2	675.5	461.1	338.4	303.8
45°	760.1	620.7	401.5	282.4	249.0
47.5°	713.6	565.9	343.1	229.9	201.3
50°	667.2	511.1	287.1	184.7	165.6
52.5°	619.5	456.3	235.9	151.3	138.2
55°	571.9	401.5	189.4	126.3	117.9
57.5°	524.2	346.7	146.5	107.2	97.7
60°	476.6	293.1	114.4	87.0	78.6
62.5°	427.7	239.5	94.1	69.1	62.0
65°	378.9	190.6	75.1	53.6	48.8
67.5°	330.0	145.4	57.2	41.7	38.1
70°	277.6	103.7	42.9	32.2	31.0
72.5°	232.3	70.3	31.0	25.0	23.8
75°	183.5	50.0	22.6	19.1	17.9
77.5°	141.8	32.2	16.7	15.5	14.3
80°	98.9	17.9	11.9	10.7	10.7
82.5°	60.8	9.5	8.3	7.1	7.1
85°	27.4	4.8	4.8	4.8	4.8
87.5°	4.8	2.4	2.4	2.4	2.4
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	19.15	20.56	19.52	20.87	21.19	10.24	11.65	10.61	11.96	12.28
	3H	20.74	21.99	21.12	22.32	22.68	10.83	12.09	11.21	12.41	12.78
	4H	21.33	22.50	21.74	22.85	23.23	10.99	12.16	11.39	12.51	12.89
	6H	21.77	22.84	22.18	23.21	23.60	11.10	12.17	11.51	12.54	12.94
	8H	21.88	22.90	22.31	23.29	23.69	11.12	12.14	11.55	12.53	12.93
	12H	21.92	22.90	22.35	23.28	23.71	11.13	12.10	11.56	12.48	12.91
4H	2H	19.01	20.18	19.41	20.53	20.91	10.83	11.99	11.23	12.34	12.73
	3H	20.65	21.61	21.07	22.02	22.42	11.54	12.50	11.95	12.90	13.30
	4H	21.26	22.12	21.69	22.54	22.98	11.74	12.60	12.18	13.02	13.46
	6H	21.75	22.49	22.21	22.94	23.40	11.91	12.65	12.37	13.10	13.56
	8H	21.90	22.59	22.36	23.03	23.50	11.94	12.63	12.41	13.08	13.55
	12H	21.97	22.58	22.45	23.06	23.54	11.97	12.58	12.45	13.06	13.53
8H	4H	21.15	21.85	21.62	22.29	22.76	12.01	12.71	12.48	13.15	13.62
	6H	21.64	22.20	22.14	22.70	23.18	12.22	12.78	12.72	13.28	13.76
	8H	21.78	22.29	22.30	22.80	23.29	12.27	12.78	12.79	13.30	13.79
	12H	21.87	22.32	22.38	22.81	23.38	12.33	12.78	12.85	13.28	13.84
12H	4H	21.11	21.73	21.60	22.21	22.68	12.04	12.66	12.53	13.14	13.61
	6H	21.58	22.09	22.10	22.60	23.09	12.25	12.76	12.77	13.27	13.76
	8H	21.74	22.19	22.26	22.69	23.26	12.34	12.79	12.85	13.28	13.85