

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: P1055978

Luminaire Tested: S124R3DR-S1020D950-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055978
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-S1020D950-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

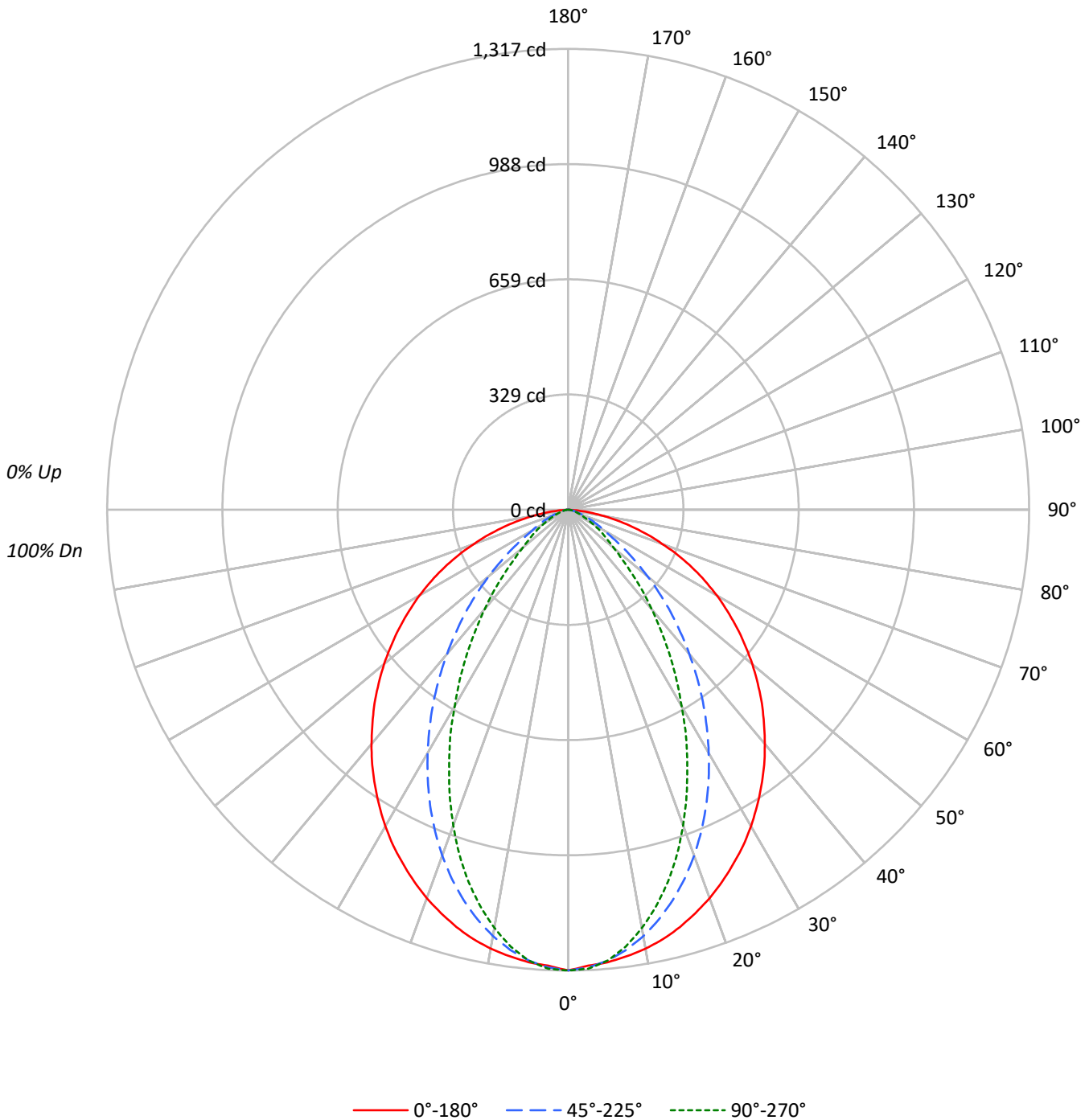
Lumens per Lamp: N/A
Luminaire Lumens: 2129.0 lumens
Efficiency: N/A
Efficacy: 61.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 34.7
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: P1055978

CATALOG NUMBER: S124R3DR-S1020D950-X4F0-XX-UDD-F-S

Luminous Intensity Polar Plot





TEST NUMBER: P1055978

CATALOG NUMBER: S124R3DR-S1020D950-X4F0-XX-UDD-F-S

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°	11641	11641	11641
5°	11523	11479	11479
10°	11436	11106	10896
15°	11300	10570	10077
20°	11119	9897	9032
25°	10895	9101	7845
30°	10663	8198	6608
35°	10387	7238	5439
40°	10089	6212	4288
45°	9780	5165	3203
50°	9443	4065	2344
55°	9071	3004	1871
60°	8672	2081	1431
65°	8157	1615	1052
70°	7383	1140	825
75°	6449	796	629
80°	5183	626	560
85°	2861	497	497

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9780 cd/sqm



TEST NUMBER: P1055978

CATALOG NUMBER: S124R3DR-S1020D950-X4F0-XX-UDD-F-S

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.1	5.7
10°-20°	326.3	15.3
20°-30°	435.2	20.4
30°-40°	438.2	20.6
40°-50°	359.4	16.9
50°-60°	245.7	11.5
60°-70°	137.3	6.4
70°-80°	54.4	2.6
80°-90°	10.3	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°	883.7	41.5
0°-40°	1321.9	62.1
0°-60°	1927.0	90.5
0°-90°	2129.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2129.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1317	1317	1317	1317	1317	
5°	1298	1313	1293	1287	1293	123
15°	1234	1221	1155	1114	1101	348
25°	1117	1062	933	839	804	515
35°	962	861	671	543	504	602
45°	782	639	413	291	256	603
55°	588	413	195	130	121	526
65°	390	196	77	55	50	385
75°	189	52	23	20	18	202
85°	28	5	5	5	5	40
90°	0	0	0	0	0	



TEST NUMBER: P1055978

CATALOG NUMBER: S124R3DR-S1020D950-X4F0-XX-UDD-F-S

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1316.7	1316.7	1316.7	1316.7	1316.7
2.5°	1304.4	1320.4	1309.3	1310.5	1313.0
5°	1298.3	1313.0	1293.4	1287.2	1293.4
7.5°	1287.2	1298.3	1268.9	1256.6	1259.1
10°	1273.8	1277.4	1237.0	1216.1	1213.7
12.5°	1256.6	1251.7	1199.0	1168.3	1161.0
15°	1234.5	1221.0	1154.8	1114.4	1100.9
17.5°	1208.8	1185.5	1105.8	1053.1	1033.5
20°	1181.8	1147.5	1051.9	984.4	959.9
22.5°	1149.9	1107.0	994.2	912.1	883.9
25°	1116.8	1061.7	932.9	838.6	804.2
27.5°	1082.5	1015.1	869.2	763.8	729.4
30°	1044.5	964.8	803.0	689.0	647.3
32.5°	1004.1	913.3	736.8	615.4	576.2
35°	962.4	860.6	670.6	543.1	503.9
37.5°	919.5	806.7	604.4	474.4	435.2
40°	874.1	751.5	538.2	409.5	371.5
42.5°	827.5	695.1	474.4	348.2	312.6
45°	782.2	638.7	413.1	290.6	256.2
47.5°	734.3	582.3	353.1	236.6	207.2
50°	686.5	525.9	295.5	190.0	170.4
52.5°	637.5	469.5	242.7	155.7	142.2
55°	588.5	413.1	194.9	130.0	121.4
57.5°	539.4	356.8	150.8	110.3	100.5
60°	490.4	301.6	117.7	89.5	80.9
62.5°	440.1	246.4	96.9	71.1	63.7
65°	389.9	196.2	77.2	55.2	50.3
67.5°	339.6	149.6	58.8	42.9	39.2
70°	285.6	106.7	44.1	33.1	31.9
72.5°	239.1	72.3	31.9	25.7	24.5
75°	188.8	51.5	23.3	19.6	18.4
77.5°	145.9	33.1	17.2	15.9	14.7
80°	101.8	18.4	12.3	11.0	11.0
82.5°	62.5	9.8	8.6	7.4	7.4
85°	28.2	4.9	4.9	4.9	4.9
87.5°	4.9	2.5	2.5	2.5	2.5
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055978
 CATALOG NUMBER: S124R3DR-S1020D950-X4F0-XX-UDD-F-S

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	19.25	20.66	19.62	20.97	21.29	10.34	11.75	10.70	12.06	12.37
	3H	20.84	22.09	21.22	22.42	22.78	10.93	12.18	11.31	12.51	12.88
	4H	21.43	22.60	21.83	22.95	23.33	11.09	12.26	11.49	12.61	12.99
	6H	21.87	22.94	22.28	23.31	23.70	11.20	12.27	11.61	12.64	13.03
	8H	21.98	23.00	22.41	23.39	23.79	11.22	12.24	11.64	12.63	13.03
	12H	22.02	23.00	22.45	23.38	23.81	11.22	12.20	11.66	12.58	13.01
4H	2H	19.11	20.28	19.51	20.63	21.01	10.92	12.09	11.32	12.44	12.82
	3H	20.75	21.71	21.17	22.12	22.52	11.64	12.59	12.05	13.00	13.40
	4H	21.36	22.22	21.79	22.64	23.08	11.84	12.70	12.27	13.12	13.56
	6H	21.85	22.59	22.31	23.04	23.50	12.01	12.75	12.47	13.19	13.66
	8H	21.99	22.69	22.46	23.13	23.60	12.04	12.73	12.51	13.18	13.65
	12H	22.07	22.68	22.55	23.16	23.64	12.06	12.68	12.55	13.16	13.63
8H	4H	21.25	21.94	21.72	22.39	22.86	12.11	12.80	12.58	13.25	13.72
	6H	21.73	22.30	22.23	22.80	23.28	12.31	12.88	12.81	13.38	13.86
	8H	21.88	22.39	22.40	22.90	23.39	12.37	12.88	12.89	13.39	13.88
	12H	21.97	22.42	22.48	22.91	23.48	12.43	12.88	12.95	13.37	13.94
12H	4H	21.21	21.83	21.70	22.31	22.78	12.14	12.75	12.62	13.23	13.71
	6H	21.68	22.19	22.20	22.70	23.19	12.34	12.85	12.86	13.37	13.86
	8H	21.84	22.29	22.36	22.79	23.36	12.44	12.89	12.95	13.38	13.95