

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: P1055971

Luminaire Tested: S124R3DR-S1020D935-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055971
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-8)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-S1020D935-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

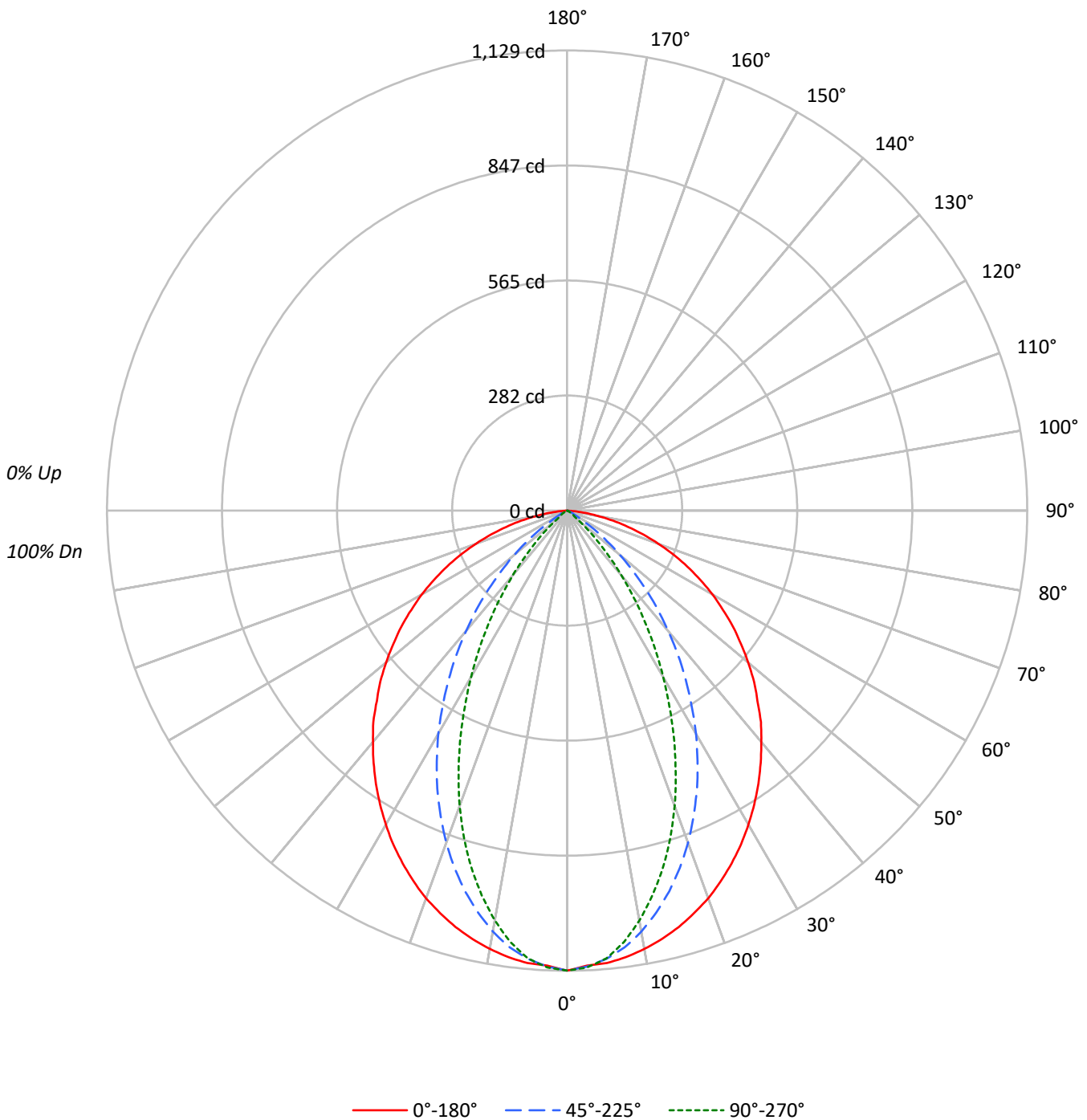
Lumens per Lamp: N/A
Luminaire Lumens: 1577.3 lumens
Efficiency: N/A
Efficacy: 45.5 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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: P1055971

CATALOG NUMBER: S124R3DR-S1020D935-X4F0-XX-UDD-F-B

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	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9978	9978	9978
5°	9889	9800	9790
10°	9805	9417	9168
15°	9682	8851	8305
20°	9525	8161	7256
25°	9315	7351	6055
30°	9082	6450	4812
35°	8826	5469	3582
40°	8556	4456	2388
45°	8259	3403	1314
50°	7975	2329	366
55°	7658	1262	239
60°	7278	391	136
65°	6805	255	69
70°	6150	114	28
75°	5291	38	0
80°	4002	0	0
85°	1684	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8259 cd/sqm



TEST NUMBER: P1055971

CATALOG NUMBER: S124R3DR-S1020D935-X4F0-XX-UDD-F-B

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.1	6.6
10°-20°	273.3	17.3
20°-30°	353.2	22.4
30°-40°	337.6	21.4
40°-50°	252.5	16.0
50°-60°	150.2	9.5
60°-70°	76.3	4.8
70°-80°	26.5	1.7
80°-90°	3.6	0.2
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°	730.6	46.3
0°-40°	1068.2	67.7
0°-60°	1470.9	93.3
0°-90°	1577.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1577.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1129	1129	1129	1129	1129	
5°	1114	1123	1104	1099	1103	106
15°	1058	1036	967	922	907	298
25°	955	888	754	654	621	440
35°	818	705	507	377	332	511
45°	660	507	272	145	105	511
55°	497	309	82	19	16	444
65°	325	125	12	4	3	322
75°	155	17	1	1	0	164
85°	17	0	0	0	0	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1128.6	1128.6	1128.6	1128.6	1128.6
2.5°	1117.5	1130.8	1119.7	1120.8	1121.9
5°	1114.2	1123.0	1104.2	1098.7	1103.1
7.5°	1105.3	1108.7	1081.0	1066.6	1067.7
10°	1092.1	1088.7	1048.9	1024.6	1021.2
12.5°	1076.6	1065.5	1010.2	974.8	967.0
15°	1057.8	1035.6	967.0	921.7	907.3
17.5°	1035.6	1003.5	919.4	859.7	842.0
20°	1012.4	968.1	867.4	793.3	771.2
22.5°	984.7	928.3	811.0	723.6	695.9
25°	954.9	888.5	753.5	653.9	620.7
27.5°	923.9	845.3	692.6	583.1	544.4
30°	889.6	800.0	631.8	511.2	471.3
32.5°	854.2	753.5	568.7	444.8	400.5
35°	817.7	704.8	506.7	377.3	331.9
37.5°	780.0	656.1	447.0	313.1	266.7
40°	741.3	606.3	386.1	252.3	206.9
42.5°	703.7	556.5	328.6	194.7	152.7
45°	660.5	506.7	272.2	144.9	105.1
47.5°	621.8	458.1	218.0	98.5	62.0
50°	579.8	406.1	169.3	57.5	26.6
52.5°	537.7	357.4	123.9	25.4	19.9
55°	496.8	308.7	81.9	18.8	15.5
57.5°	453.6	260.0	44.3	14.4	11.1
60°	411.6	212.4	22.1	11.1	7.7
62.5°	368.4	167.1	17.7	6.6	4.4
65°	325.3	125.0	12.2	4.4	3.3
67.5°	282.1	85.2	7.7	2.2	1.1
70°	237.9	52.0	4.4	1.1	1.1
72.5°	195.8	26.6	2.2	1.1	1.1
75°	154.9	16.6	1.1	1.1	0.0
77.5°	115.1	8.9	1.1	1.1	0.0
80°	78.6	3.3	0.0	0.0	0.0
82.5°	45.4	1.1	0.0	0.0	0.0
85°	16.6	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P1055971

CATALOG NUMBER: S124R3DR-S1020D935-X4F0-XX-UDD-F-B

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	18.45	19.78	18.81	20.09	20.40	0.00	0.00	0.00	0.00	0.00
	3H	19.99	21.17	20.37	21.50	21.86	0.00	0.00	0.00	0.00	0.00
	4H	20.58	21.68	20.99	22.03	22.41	0.00	0.00	0.00	0.00	0.00
	6H	21.00	22.01	21.42	22.38	22.77	0.00	0.00	0.00	0.00	0.00
	8H	21.10	22.05	21.53	22.44	22.85	0.00	0.00	0.00	0.00	0.00
	12H	21.12	22.03	21.55	22.41	22.84	0.00	0.00	0.00	0.00	0.00
4H	2H	18.22	19.32	18.63	19.67	20.05	0.00	0.00	0.00	0.00	0.00
	3H	19.79	20.68	20.20	21.09	21.49	0.00	0.00	0.00	0.00	0.00
	4H	20.37	21.17	20.81	21.59	22.03	0.00	0.00	0.00	0.00	0.00
	6H	20.83	21.52	21.30	21.97	22.43	0.00	0.00	0.00	0.00	0.00
	8H	20.95	21.59	21.42	22.04	22.51	0.00	0.00	0.00	0.00	0.00
	12H	20.99	21.56	21.48	22.04	22.52	0.00	0.00	0.00	0.00	0.00
8H	4H	20.24	20.88	20.71	21.32	21.79	0.00	0.39	0.22	0.84	1.31
	6H	20.68	21.20	21.18	21.70	22.18	0.00	0.18	0.16	0.68	1.16
	8H	20.79	21.26	21.32	21.78	22.27	0.00	0.06	0.12	0.58	1.07
	12H	20.84	21.26	21.36	21.75	22.32	0.00	0.00	0.07	0.46	1.03
12H	4H	20.19	20.76	20.68	21.24	21.71	0.16	0.73	0.65	1.21	1.68
	6H	20.61	21.08	21.14	21.60	22.09	0.05	0.52	0.58	1.04	1.53
	8H	20.75	21.16	21.27	21.66	22.23	0.01	0.42	0.53	0.92	1.49