

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: P1056104

Luminaire Tested: S124R3DR-H1020D930-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056104
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-H1020D930-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

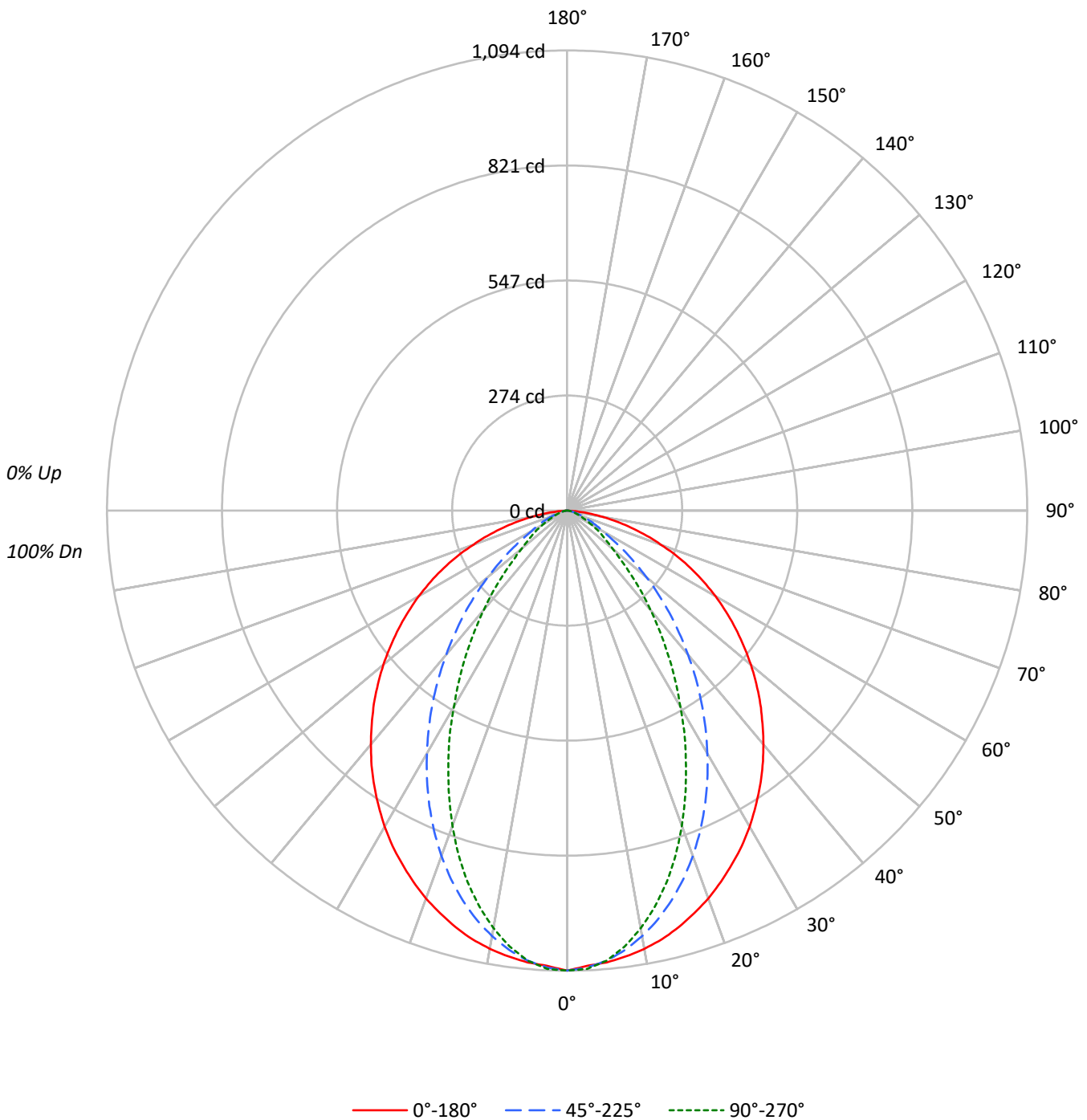
Lumens per Lamp: N/A
Luminaire Lumens: 1768.2 lumens
Efficiency: N/A
Efficacy: 57.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
Input Voltage (V): 120
Input Current (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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9668	9668	9668
5°	9570	9534	9534
10°	9498	9223	9050
15°	9385	8779	8369
20°	9235	8220	7501
25°	9049	7558	6516
30°	8856	6808	5488
35°	8627	6011	4517
40°	8379	5159	3561
45°	8122	4290	2661
50°	7843	3375	1946
55°	7533	2496	1554
60°	7202	1728	1188
65°	6774	1341	872
70°	6132	949	685
75°	5356	659	523
80°	4302	519	468
85°	2374	416	416

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8122 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.4	5.7
10°-20°	271.0	15.3
20°-30°	361.5	20.4
30°-40°	364.0	20.6
40°-50°	298.5	16.9
50°-60°	204.0	11.5
60°-70°	114.0	6.4
70°-80°	45.2	2.6
80°-90°	8.6	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°	733.9	41.5
0°-40°	1097.9	62.1
0°-60°	1600.4	90.5
0°-90°	1768.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1768.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1094	1094	1094	1094	1094	
5°	1078	1090	1074	1069	1074	102
15°	1025	1014	959	926	914	289
25°	928	882	775	696	668	427
35°	799	715	557	451	418	500
45°	650	530	343	241	213	501
55°	489	343	162	108	101	437
65°	324	163	64	46	42	320
75°	157	43	19	16	15	168
85°	23	4	4	4	4	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1093.5	1093.5	1093.5	1093.5	1093.5
2.5°	1083.3	1096.6	1087.4	1088.4	1090.5
5°	1078.3	1090.5	1074.2	1069.1	1074.2
7.5°	1069.1	1078.3	1053.8	1043.6	1045.7
10°	1057.9	1060.9	1027.3	1010.0	1008.0
12.5°	1043.6	1039.6	995.8	970.3	964.2
15°	1025.3	1014.1	959.1	925.5	914.3
17.5°	1003.9	984.6	918.4	874.6	858.3
20°	981.5	953.0	873.6	817.6	797.2
22.5°	955.1	919.4	825.7	757.5	734.1
25°	927.6	881.7	774.8	696.4	667.9
27.5°	899.1	843.1	721.9	634.3	605.8
30°	867.5	801.3	666.9	572.2	537.6
32.5°	833.9	758.5	611.9	511.1	478.5
35°	799.3	714.8	556.9	451.1	418.5
37.5°	763.6	670.0	502.0	394.0	361.5
40°	726.0	624.1	447.0	340.1	308.5
42.5°	687.3	577.3	394.0	289.2	259.6
45°	649.6	530.5	343.1	241.3	212.8
47.5°	609.9	483.6	293.2	196.5	172.1
50°	570.2	436.8	245.4	157.8	141.5
52.5°	529.5	390.0	201.6	129.3	118.1
55°	488.7	343.1	161.9	107.9	100.8
57.5°	448.0	296.3	125.2	91.6	83.5
60°	407.3	250.5	97.7	74.3	67.2
62.5°	365.5	204.7	80.4	59.1	52.9
65°	323.8	162.9	64.1	45.8	41.7
67.5°	282.0	124.2	48.9	35.6	32.6
70°	237.2	88.6	36.7	27.5	26.5
72.5°	198.5	60.1	26.5	21.4	20.4
75°	156.8	42.8	19.3	16.3	15.3
77.5°	121.2	27.5	14.3	13.2	12.2
80°	84.5	15.3	10.2	9.2	9.2
82.5°	51.9	8.1	7.1	6.1	6.1
85°	23.4	4.1	4.1	4.1	4.1
87.5°	4.1	2.0	2.0	2.0	2.0
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	18.61	20.01	18.97	20.33	20.64	9.69	11.10	10.06	11.41	11.73
	3H	20.19	21.44	20.57	21.77	22.14	10.29	11.54	10.67	11.87	12.23
	4H	20.79	21.96	21.19	22.31	22.69	10.44	11.61	10.85	11.96	12.34
	6H	21.22	22.29	21.63	22.66	23.06	10.55	11.63	10.97	12.00	12.39
	8H	21.33	22.35	21.76	22.74	23.15	10.57	11.59	11.00	11.98	12.39
	12H	21.38	22.35	21.81	22.73	23.16	10.58	11.56	11.01	11.94	12.37
4H	2H	18.46	19.63	18.86	19.98	20.36	10.28	11.45	10.68	11.80	12.18
	3H	20.11	21.07	20.52	21.47	21.87	10.99	11.95	11.40	12.35	12.75
	4H	20.71	21.57	21.15	21.99	22.43	11.20	12.05	11.63	12.47	12.91
	6H	21.21	21.95	21.67	22.39	22.86	11.36	12.10	11.82	12.55	13.01
	8H	21.35	22.04	21.82	22.49	22.96	11.39	12.09	11.86	12.53	13.00
	12H	21.42	22.04	21.91	22.52	22.99	11.42	12.03	11.91	12.52	12.99
8H	4H	20.61	21.30	21.07	21.75	22.21	11.47	12.16	11.93	12.60	13.07
	6H	21.09	21.66	21.59	22.15	22.63	11.67	12.24	12.17	12.73	13.21
	8H	21.23	21.74	21.75	22.25	22.75	11.73	12.24	12.25	12.75	13.24
	12H	21.32	21.77	21.84	22.27	22.83	11.79	12.24	12.30	12.73	13.30
12H	4H	20.57	21.18	21.05	21.66	22.14	11.49	12.11	11.98	12.59	13.06
	6H	21.03	21.54	21.55	22.06	22.55	11.70	12.21	12.22	12.72	13.21
	8H	21.20	21.65	21.71	22.14	22.71	11.79	12.24	12.31	12.74	13.30