

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: P1055965

Luminaire Tested: S124R3DR-S1020D927-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055965
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-S1020D927-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

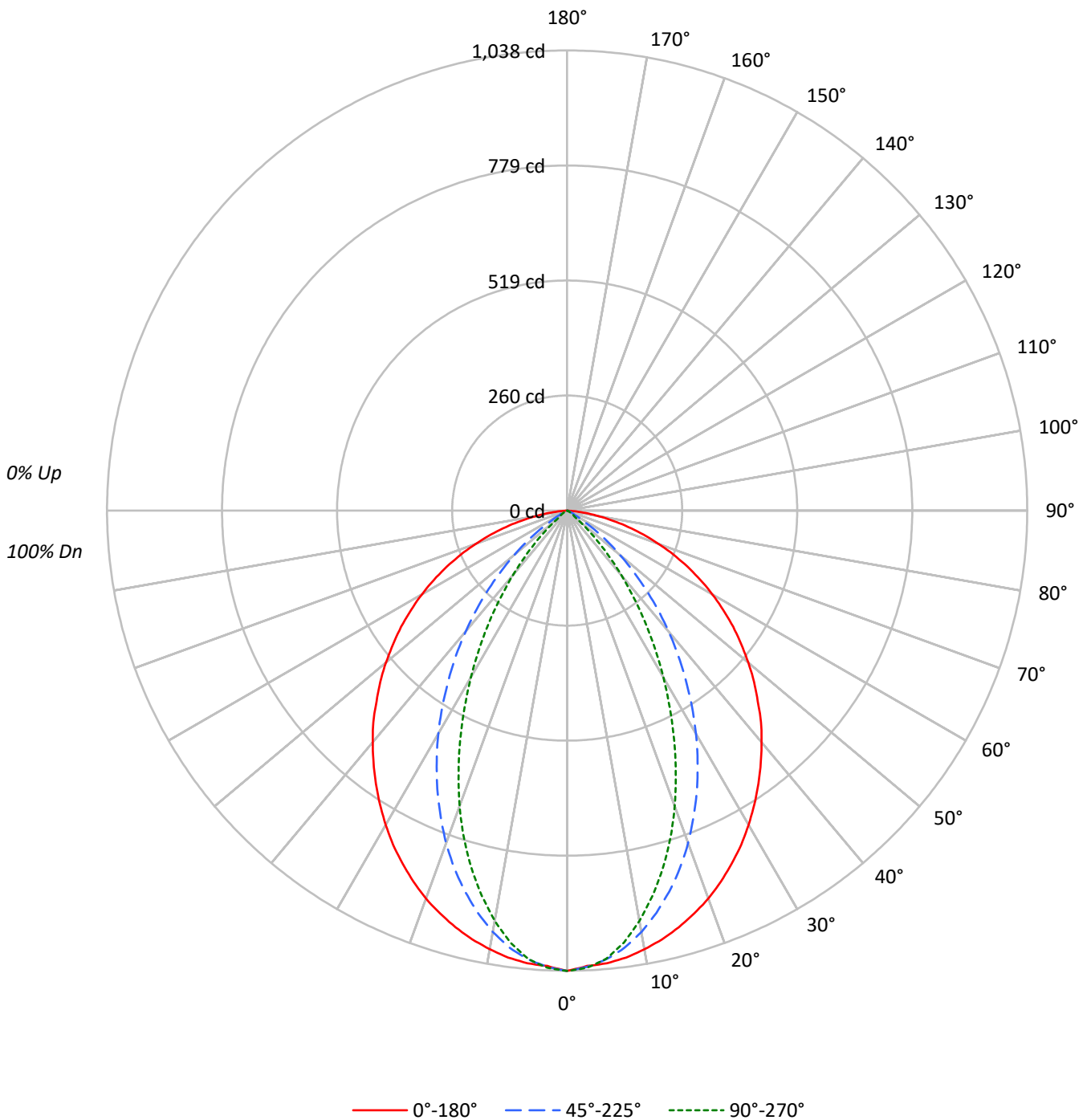
Lumens per Lamp: N/A
Luminaire Lumens: 1451.3 lumens
Efficiency: N/A
Efficacy: 41.8 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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

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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	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°	9181	9181	9181
5°	9098	9017	9007
10°	9021	8664	8436
15°	8908	8144	7641
20°	8764	7509	6676
25°	8570	6763	5571
30°	8356	5935	4428
35°	8120	5032	3296
40°	7873	4101	2198
45°	7598	3131	1209
50°	7337	2143	336
55°	7046	1161	220
60°	6696	361	126
65°	6261	234	65
70°	5659	106	26
75°	4868	34	0
80°	3681	0	0
85°	1552	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7598 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.8	6.6
10°-20°	251.5	17.3
20°-30°	325.0	22.4
30°-40°	310.6	21.4
40°-50°	232.3	16.0
50°-60°	138.2	9.5
60°-70°	70.2	4.8
70°-80°	24.4	1.7
80°-90°	3.3	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°	672.2	46.3
0°-40°	982.8	67.7
0°-60°	1353.4	93.3
0°-90°	1451.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1451.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1038	1038	1038	1038	1038	
5°	1025	1033	1016	1011	1015	97
15°	973	953	890	848	835	274
25°	878	818	693	602	571	405
35°	752	648	466	347	305	470
45°	608	466	250	133	97	470
55°	457	284	75	17	14	408
65°	299	115	11	4	3	296
75°	142	15	1	1	0	151
85°	15	0	0	0	0	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1038.4	1038.4	1038.4	1038.4	1038.4
2.5°	1028.2	1040.4	1030.2	1031.2	1032.3
5°	1025.1	1033.3	1016.0	1010.9	1014.9
7.5°	1017.0	1020.0	994.6	981.4	982.4
10°	1004.8	1001.7	965.1	942.7	939.6
12.5°	990.5	980.3	929.4	896.9	889.7
15°	973.2	952.9	889.7	848.0	834.8
17.5°	952.9	923.3	846.0	791.0	774.7
20°	931.5	890.8	798.1	729.9	709.5
22.5°	906.0	854.1	746.2	665.8	640.3
25°	878.5	817.5	693.3	601.6	571.1
27.5°	850.0	777.8	637.3	536.5	500.9
30°	818.5	736.0	581.3	470.3	433.7
32.5°	785.9	693.3	523.3	409.2	368.5
35°	752.3	648.5	466.2	347.1	305.4
37.5°	717.7	603.7	411.3	288.1	245.3
40°	682.1	557.9	355.3	232.1	190.4
42.5°	647.5	512.1	302.3	179.2	140.5
45°	607.7	466.2	250.4	133.4	96.7
47.5°	572.1	421.5	200.5	90.6	57.0
50°	533.4	373.6	155.8	52.9	24.4
52.5°	494.7	328.8	114.0	23.4	18.3
55°	457.1	284.0	75.3	17.3	14.3
57.5°	417.4	239.2	40.7	13.2	10.2
60°	378.7	195.5	20.4	10.2	7.1
62.5°	339.0	153.7	16.3	6.1	4.1
65°	299.3	115.0	11.2	4.1	3.1
67.5°	259.6	78.4	7.1	2.0	1.0
70°	218.9	47.8	4.1	1.0	1.0
72.5°	180.2	24.4	2.0	1.0	1.0
75°	142.5	15.3	1.0	1.0	0.0
77.5°	105.9	8.1	1.0	1.0	0.0
80°	72.3	3.1	0.0	0.0	0.0
82.5°	41.7	1.0	0.0	0.0	0.0
85°	15.3	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



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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	18.16	19.49	18.52	19.80	20.11	0.00	0.00	0.00	0.00	0.00
	3H	19.70	20.88	20.08	21.21	21.57	0.00	0.00	0.00	0.00	0.00
	4H	20.29	21.39	20.70	21.74	22.12	0.00	0.00	0.00	0.00	0.00
	6H	20.71	21.72	21.13	22.09	22.48	0.00	0.00	0.00	0.00	0.00
	8H	20.81	21.76	21.24	22.15	22.56	0.00	0.00	0.00	0.00	0.00
	12H	20.83	21.74	21.26	22.12	22.55	0.00	0.00	0.00	0.00	0.00
4H	2H	17.94	19.03	18.34	19.38	19.76	0.00	0.00	0.00	0.00	0.00
	3H	19.50	20.39	19.91	20.80	21.20	0.00	0.00	0.00	0.00	0.00
	4H	20.08	20.88	20.52	21.30	21.74	0.00	0.00	0.00	0.00	0.00
	6H	20.54	21.23	21.01	21.68	22.14	0.00	0.00	0.00	0.00	0.00
	8H	20.66	21.30	21.13	21.75	22.22	0.00	0.00	0.00	0.00	0.00
	12H	20.70	21.27	21.19	21.75	22.23	0.00	0.00	0.00	0.00	0.00
8H	4H	19.95	20.59	20.42	21.03	21.51	0.00	0.08	0.00	0.53	1.00
	6H	20.39	20.91	20.89	21.41	21.89	0.00	0.00	0.00	0.37	0.85
	8H	20.50	20.97	21.03	21.49	21.98	0.00	0.00	0.00	0.28	0.77
	12H	20.55	20.97	21.07	21.46	22.03	0.00	0.00	0.00	0.16	0.73
12H	4H	19.90	20.47	20.39	20.95	21.42	0.00	0.42	0.34	0.91	1.38
	6H	20.33	20.79	20.85	21.31	21.80	0.00	0.22	0.27	0.73	1.23
	8H	20.46	20.87	20.98	21.37	21.94	0.00	0.12	0.22	0.61	1.19