

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: P1056121

Luminaire Tested: S124R3DR-H1195D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056121  
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-H1195D840-X4F0-XX-UDD-F-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

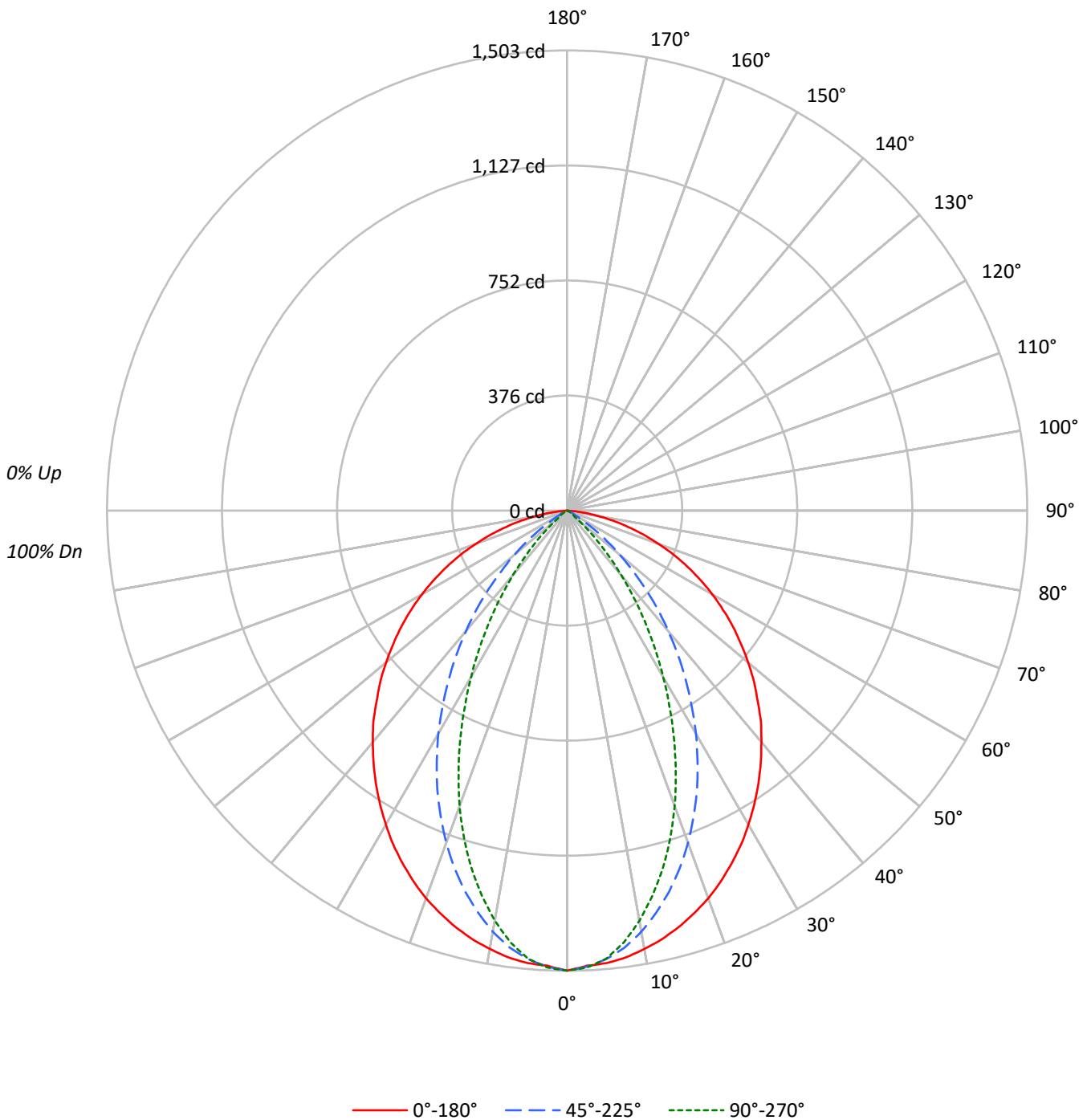
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2100.3 lumens  
Efficiency: N/A  
Efficacy: 57.4 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): 36.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90					90			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80					80			
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71					71			
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64					64			
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57					57			
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52					52			
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47					47			
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43					43			
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40					40			
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37					37			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	13286	13286	13286
5°	13167	13049	13037
10°	13055	12539	12208
15°	12892	11786	11058
20°	12683	10867	9662
25°	12403	9788	8063
30°	12093	8588	6407
35°	11751	7283	4771
40°	11393	5935	3180
45°	10997	4531	1751
50°	10619	3100	487
55°	10197	1680	318
60°	9692	522	182
65°	9061	339	92
70°	8189	153	39
75°	7047	51	0
80°	5326	0	0
85°	2242	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10997 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.6	6.6
10°-20°	364.0	17.3
20°-30°	470.3	22.4
30°-40°	449.5	21.4
40°-50°	336.2	16.0
50°-60°	200.1	9.5
60°-70°	101.6	4.8
70°-80°	35.3	1.7
80°-90°	4.8	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°	972.9	46.3
0°-40°	1422.4	67.7
0°-60°	1958.6	93.3
0°-90°	2100.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2100.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1503	1503	1503	1503	1503	
5°	1484	1495	1470	1463	1469	141
15°	1408	1379	1288	1227	1208	397
25°	1271	1183	1003	871	826	586
35°	1089	938	675	502	442	681
45°	880	675	362	193	140	680
55°	662	411	109	25	21	591
65°	433	166	16	6	4	428
75°	206	22	2	2	0	219
85°	22	0	0	0	0	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1502.7	1502.7	1502.7	1502.7	1502.7
2.5°	1488.0	1505.7	1491.0	1492.4	1493.9
5°	1483.6	1495.4	1470.3	1463.0	1468.9
7.5°	1471.8	1476.2	1439.4	1420.2	1421.7
10°	1454.1	1449.7	1396.7	1364.3	1359.8
12.5°	1433.5	1418.8	1345.1	1298.0	1287.6
15°	1408.5	1379.0	1287.6	1227.2	1208.1
17.5°	1379.0	1336.3	1224.3	1144.7	1121.2
20°	1348.0	1289.1	1155.0	1056.3	1026.9
22.5°	1311.2	1236.1	1079.9	963.5	926.7
25°	1271.4	1183.0	1003.3	870.7	826.5
27.5°	1230.2	1125.6	922.3	776.4	724.9
30°	1184.5	1065.2	841.2	680.7	627.6
32.5°	1137.4	1003.3	757.3	592.3	533.3
35°	1088.7	938.5	674.8	502.4	442.0
37.5°	1038.7	873.7	595.2	416.9	355.1
40°	987.1	807.4	514.2	335.9	275.5
42.5°	937.0	741.1	437.6	259.3	203.3
45°	879.5	674.8	362.4	193.0	140.0
47.5°	828.0	609.9	290.2	131.1	82.5
50°	772.0	540.7	225.4	76.6	35.4
52.5°	716.0	475.9	165.0	33.9	26.5
55°	661.5	411.0	109.0	25.0	20.6
57.5°	604.0	346.2	58.9	19.2	14.7
60°	548.1	282.9	29.5	14.7	10.3
62.5°	490.6	222.5	23.6	8.8	5.9
65°	433.1	166.5	16.2	5.9	4.4
67.5°	375.7	113.4	10.3	2.9	1.5
70°	316.8	69.2	5.9	1.5	1.5
72.5°	260.8	35.4	2.9	1.5	1.5
75°	206.3	22.1	1.5	1.5	0.0
77.5°	153.2	11.8	1.5	1.5	0.0
80°	104.6	4.4	0.0	0.0	0.0
82.5°	60.4	1.5	0.0	0.0	0.0
85°	22.1	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	19.44	20.77	19.81	21.08	21.40	0.00	0.00	0.00	0.00	0.08
	3H	20.98	22.16	21.36	22.49	22.86	0.00	0.00	0.00	0.00	0.00
	4H	21.58	22.67	21.98	23.02	23.41	0.00	0.00	0.00	0.00	0.00
	6H	22.00	23.00	22.41	23.37	23.77	0.00	0.00	0.00	0.00	0.00
	8H	22.09	23.05	22.52	23.44	23.84	0.00	0.00	0.00	0.00	0.00
	12H	22.11	23.02	22.55	23.41	23.84	0.00	0.00	0.00	0.00	0.00
4H	2H	19.22	20.32	19.62	20.67	21.05	0.00	0.19	0.00	0.55	0.93
	3H	20.78	21.68	21.20	22.08	22.48	0.00	0.00	0.00	0.36	0.77
	4H	21.37	22.16	21.80	22.58	23.03	0.00	0.00	0.00	0.23	0.67
	6H	21.83	22.51	22.29	22.96	23.43	0.00	0.00	0.00	0.08	0.55
	8H	21.95	22.59	22.42	23.03	23.51	0.00	0.00	0.00	0.00	0.45
	12H	21.99	22.55	22.47	23.04	23.51	0.00	0.00	0.00	0.00	0.37
8H	4H	21.23	21.87	21.70	22.32	22.79	0.74	1.38	1.21	1.83	2.30
	6H	21.67	22.19	22.17	22.69	23.17	0.65	1.18	1.16	1.67	2.15
	8H	21.79	22.26	22.31	22.77	23.26	0.59	1.06	1.11	1.58	2.07
	12H	21.84	22.25	22.35	22.74	23.32	0.55	0.96	1.06	1.46	2.03
12H	4H	21.19	21.75	21.67	22.23	22.71	1.16	1.72	1.64	2.20	2.68
	6H	21.61	22.08	22.13	22.59	23.09	1.05	1.52	1.57	2.03	2.52
	8H	21.74	22.16	22.26	22.65	23.22	1.00	1.42	1.52	1.91	2.48