

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: P1055979

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

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055979  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-7)  
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-W  
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: -

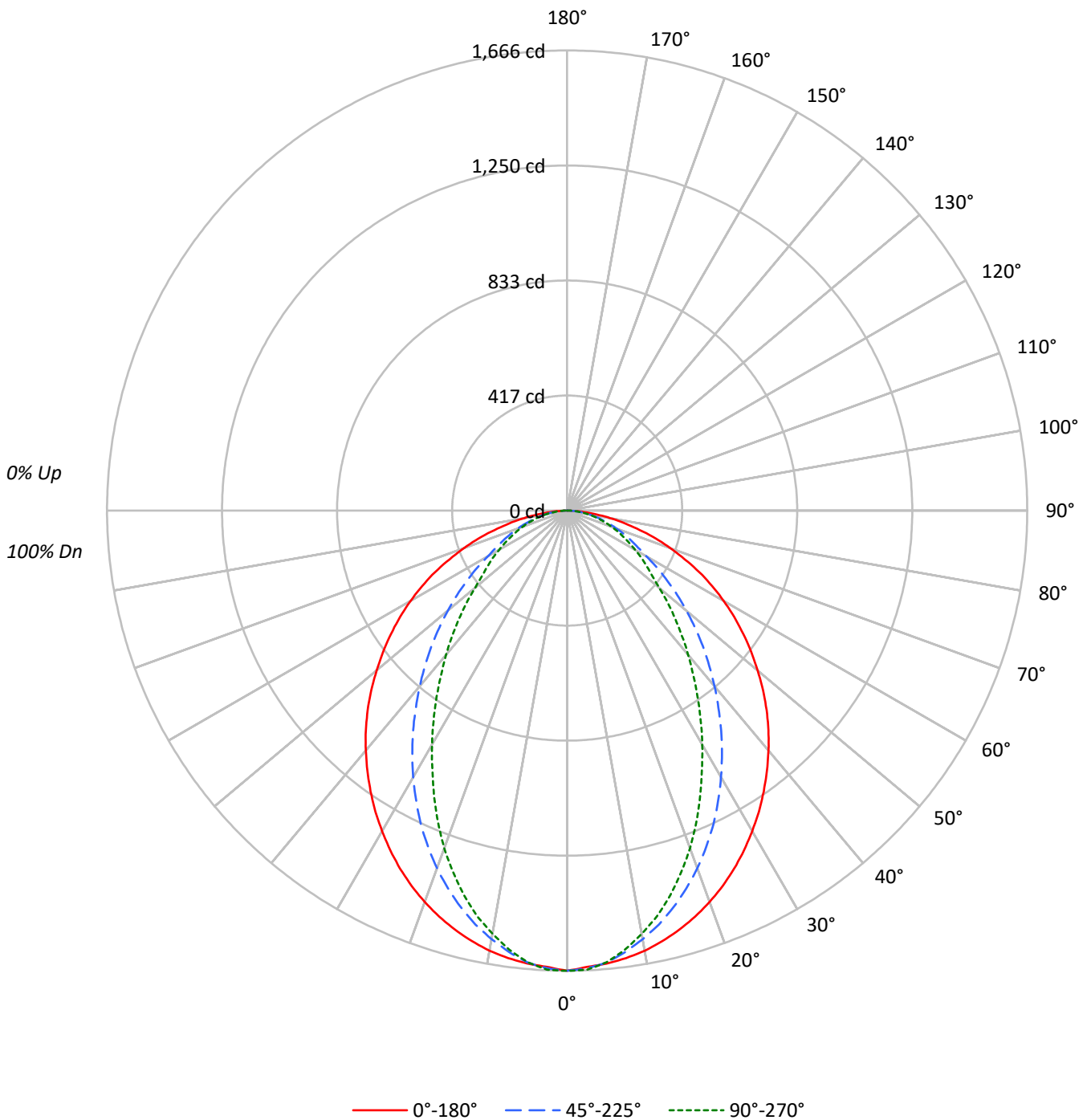
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3318.4 lumens  
Efficiency: N/A  
Efficacy: 95.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12  
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 (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	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	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73
3	93	83	75	69	90	81	74	69	79	73	68	76	71	67	73	69	65	63
4	85	74	66	60	83	73	65	60	71	64	59	68	63	58	66	61	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

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

	0°	45°	90°
0°	14731	14731	14731
5°	14613	14580	14569
10°	14529	14144	13967
15°	14374	13612	13196
20°	14188	12965	12238
25°	13957	12223	11122
30°	13680	11377	9988
35°	13391	10493	8892
40°	13088	9580	7867
45°	12769	8691	6913
50°	12378	7756	5970
55°	12000	6822	5423
60°	11577	5853	5029
65°	11054	5310	4692
70°	10268	4912	4436
75°	9298	4523	4188
80°	8116	4180	3931
85°	6218	3855	3611

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12769 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	155.1	4.7
10°-20°	420.8	12.7
20°-30°	582.6	17.6
30°-40°	625.3	18.8
40°-50°	568.7	17.1
50°-60°	447.8	13.5
60°-70°	306.5	9.2
70°-80°	165.0	5.0
80°-90°	46.7	1.4
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°	1158.4	34.9
0°-40°	1783.7	53.8
0°-60°	2800.2	84.4
0°-90°	3318.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3318.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1666	1666	1666	1666	1666	
5°	1646	1665	1643	1634	1642	156
15°	1570	1553	1487	1447	1442	443
25°	1431	1372	1253	1162	1140	659
35°	1241	1144	972	854	824	776
45°	1021	891	695	575	553	787
55°	778	630	443	357	352	696
65°	528	378	254	226	224	521
75°	272	166	132	121	123	291
85°	61	42	38	36	36	74
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1666.1	1666.1	1666.1	1666.1	1666.1
2.5°	1653.8	1673.4	1658.7	1661.2	1663.6
5°	1646.5	1664.8	1642.8	1634.2	1641.6
7.5°	1634.2	1646.5	1612.1	1596.2	1603.5
10°	1618.3	1620.7	1575.4	1552.1	1555.7
12.5°	1596.2	1590.1	1534.9	1501.8	1504.2
15°	1570.4	1553.3	1487.1	1446.6	1441.7
17.5°	1541.0	1512.8	1434.4	1382.9	1373.1
20°	1507.9	1469.9	1378.0	1311.8	1300.7
22.5°	1471.1	1422.1	1316.7	1238.2	1222.3
25°	1430.7	1371.8	1252.9	1162.2	1140.1
27.5°	1386.6	1317.9	1184.3	1085.0	1056.8
30°	1340.0	1261.5	1114.4	1007.7	978.3
32.5°	1292.2	1203.9	1043.3	930.5	899.9
35°	1240.7	1143.8	972.2	854.5	823.8
37.5°	1187.9	1081.3	899.9	780.9	749.1
40°	1134.0	1018.8	830.0	707.4	681.6
42.5°	1078.8	955.0	761.3	638.7	615.4
45°	1021.2	891.3	695.1	575.0	552.9
47.5°	962.4	826.3	627.7	514.9	494.1
50°	899.9	761.3	563.9	456.1	434.0
52.5°	839.8	695.1	502.6	398.4	387.4
55°	778.5	630.1	442.6	356.8	351.8
57.5°	717.2	565.2	387.4	323.7	318.7
60°	654.7	501.4	331.0	289.3	284.4
62.5°	592.1	438.9	289.3	256.2	253.8
65°	528.4	377.6	253.8	225.6	224.3
67.5°	461.0	318.7	221.9	198.6	197.4
70°	397.2	259.9	190.0	171.6	171.6
72.5°	337.1	206.0	160.6	145.9	145.9
75°	272.2	165.5	132.4	121.4	122.6
77.5°	214.5	130.0	106.7	99.3	99.3
80°	159.4	96.9	82.1	76.0	77.2
82.5°	107.9	67.4	58.8	55.2	55.2
85°	61.3	41.7	38.0	35.6	35.6
87.5°	22.1	19.6	18.4	15.9	17.2
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	20.49	22.01	20.85	22.33	22.64	16.27	17.79	16.63	18.10	18.42
	3H	22.26	23.63	22.64	23.96	24.32	17.88	19.25	18.25	19.57	19.94
	4H	22.93	24.22	23.33	24.57	24.95	18.51	19.79	18.91	20.14	20.52
	6H	23.44	24.63	23.86	25.00	25.39	19.01	20.20	19.42	20.56	20.95
	8H	23.61	24.74	24.03	25.13	25.53	19.18	20.31	19.60	20.70	21.10
	12H	23.71	24.79	24.14	25.17	25.60	19.30	20.38	19.73	20.77	21.20
4H	2H	20.58	21.87	20.98	22.22	22.60	16.98	18.27	17.38	18.62	19.00
	3H	22.53	23.60	22.94	24.00	24.40	18.79	19.86	19.20	20.26	20.66
	4H	23.28	24.25	23.72	24.66	25.10	19.53	20.49	19.96	20.91	21.35
	6H	23.92	24.76	24.38	25.20	25.66	20.14	20.98	20.60	21.43	21.89
	8H	24.14	24.92	24.60	25.37	25.83	20.36	21.15	20.82	21.59	22.06
	12H	24.29	24.99	24.77	25.47	25.94	20.53	21.23	21.01	21.71	22.18
8H	4H	23.34	24.13	23.80	24.57	25.04	19.92	20.70	20.38	21.15	21.61
	6H	24.04	24.69	24.54	25.18	25.66	20.65	21.30	21.14	21.79	22.27
	8H	24.31	24.89	24.82	25.40	25.89	20.94	21.52	21.45	22.03	22.52
	12H	24.53	25.04	25.03	25.53	26.10	21.18	21.70	21.69	22.19	22.75
12H	4H	23.33	24.03	23.81	24.51	24.98	19.97	20.67	20.45	21.15	21.62
	6H	24.03	24.62	24.55	25.13	25.61	20.73	21.31	21.24	21.82	22.31
	8H	24.34	24.86	24.85	25.35	25.91	21.08	21.60	21.59	22.09	22.65