

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: P1055955

Luminaire Tested: S124R3DR-S1020D830-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055955  
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-S1020D830-X4F0-XX-UDD-F-W  
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

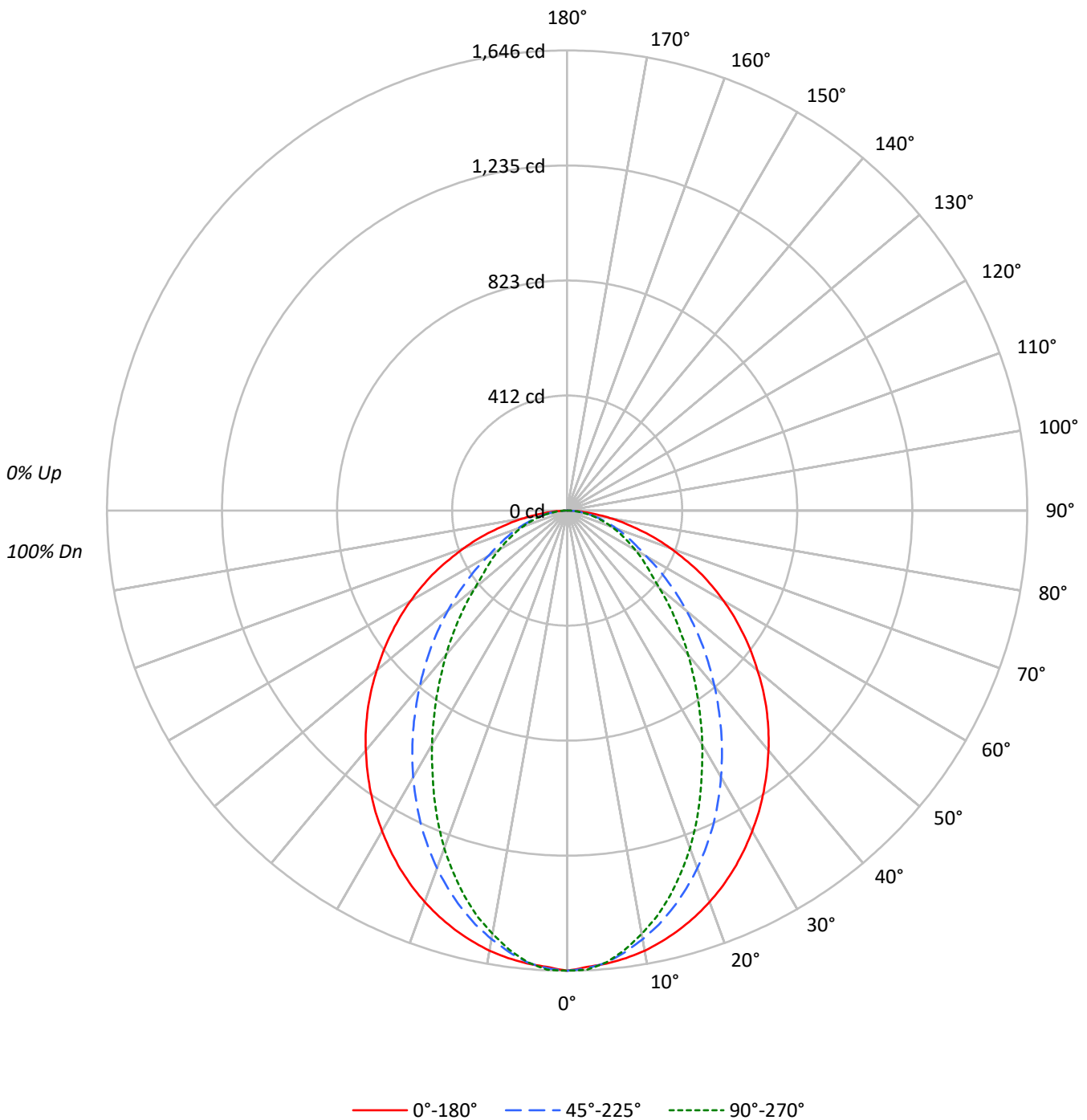
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3278.5 lumens  
Efficiency: N/A  
Efficacy: 94.5 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 (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	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°	14554	14554	14554
5°	14437	14404	14394
10°	14354	13973	13800
15°	14202	13448	13038
20°	14017	12809	12091
25°	13789	12076	10988
30°	13516	11240	9868
35°	13230	10367	8785
40°	12931	9464	7772
45°	12616	8587	6831
50°	12228	7664	5898
55°	11855	6741	5358
60°	11437	5782	4969
65°	10920	5245	4638
70°	10144	4852	4384
75°	9186	4468	4137
80°	8019	4134	3885
85°	6147	3804	3561

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12616 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	153.2	4.7
10°-20°	415.7	12.7
20°-30°	575.6	17.6
30°-40°	617.8	18.8
40°-50°	561.8	17.1
50°-60°	442.4	13.5
60°-70°	302.8	9.2
70°-80°	163.0	5.0
80°-90°	46.1	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°	1144.5	34.9
0°-40°	1762.3	53.8
0°-60°	2766.6	84.4
0°-90°	3278.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3278.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1646	1646	1646	1646	1646	
5°	1627	1645	1623	1615	1622	154
15°	1552	1535	1469	1429	1424	437
25°	1414	1355	1238	1148	1126	651
35°	1226	1130	960	844	814	767
45°	1009	881	687	568	546	778
55°	769	623	437	352	348	688
65°	522	373	251	223	222	515
75°	269	164	131	120	121	287
85°	61	41	38	35	35	73
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1646.1	1646.1	1646.1	1646.1	1646.1
2.5°	1633.9	1653.3	1638.8	1641.2	1643.6
5°	1626.7	1644.9	1623.0	1614.6	1621.8
7.5°	1614.6	1626.7	1592.8	1577.0	1584.3
10°	1598.8	1601.2	1556.4	1533.4	1537.1
12.5°	1577.0	1571.0	1516.5	1483.8	1486.2
15°	1551.6	1534.6	1469.2	1429.3	1424.4
17.5°	1522.5	1494.7	1417.1	1366.3	1356.6
20°	1489.8	1452.3	1361.4	1296.0	1285.1
22.5°	1453.5	1405.0	1300.9	1223.3	1207.6
25°	1413.5	1355.4	1237.9	1148.2	1126.4
27.5°	1369.9	1302.1	1170.0	1071.9	1044.1
30°	1323.9	1246.4	1101.0	995.6	966.6
32.5°	1276.6	1189.4	1030.8	919.3	889.0
35°	1225.8	1130.1	960.5	844.2	813.9
37.5°	1173.7	1068.3	889.0	771.6	740.1
40°	1120.4	1006.5	820.0	698.9	673.4
42.5°	1065.9	943.5	752.2	631.1	608.0
45°	1009.0	880.6	686.8	568.1	546.3
47.5°	950.8	816.4	620.1	508.7	488.1
50°	889.0	752.2	557.2	450.6	428.8
52.5°	829.7	686.8	496.6	393.6	382.7
55°	769.1	622.6	437.3	352.5	347.6
57.5°	708.6	558.4	382.7	319.8	314.9
60°	646.8	495.4	327.0	285.9	281.0
62.5°	585.0	433.6	285.9	253.1	250.7
65°	522.0	373.1	250.7	222.9	221.7
67.5°	455.4	314.9	219.2	196.2	195.0
70°	392.4	256.8	187.7	169.6	169.6
72.5°	333.1	203.5	158.7	144.1	144.1
75°	268.9	163.5	130.8	119.9	121.1
77.5°	212.0	128.4	105.4	98.1	98.1
80°	157.5	95.7	81.2	75.1	76.3
82.5°	106.6	66.6	58.1	54.5	54.5
85°	60.6	41.2	37.5	35.1	35.1
87.5°	21.8	19.4	18.2	15.7	17.0
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	20.45	21.97	20.81	22.28	22.60	16.22	17.75	16.59	18.06	18.38
	3H	22.22	23.59	22.60	23.92	24.28	17.83	19.20	18.21	19.53	19.89
	4H	22.89	24.18	23.29	24.53	24.91	18.47	19.75	18.87	20.10	20.48
	6H	23.40	24.59	23.81	24.96	25.35	18.96	20.15	19.38	20.52	20.91
	8H	23.56	24.70	23.99	25.09	25.49	19.14	20.27	19.56	20.66	21.06
	12H	23.66	24.75	24.09	25.13	25.56	19.26	20.34	19.69	20.72	21.15
4H	2H	20.54	21.83	20.94	22.18	22.55	16.94	18.23	17.34	18.58	18.95
	3H	22.49	23.56	22.90	23.95	24.36	18.75	19.82	19.16	20.22	20.62
	4H	23.24	24.20	23.67	24.62	25.06	19.49	20.45	19.92	20.87	21.30
	6H	23.88	24.72	24.33	25.16	25.62	20.10	20.94	20.56	21.38	21.84
	8H	24.10	24.88	24.56	25.32	25.79	20.32	21.10	20.78	21.55	22.01
	12H	24.25	24.95	24.73	25.43	25.90	20.48	21.19	20.97	21.66	22.14
8H	4H	23.30	24.08	23.76	24.53	24.99	19.87	20.66	20.34	21.10	21.57
	6H	24.00	24.65	24.49	25.14	25.61	20.61	21.26	21.10	21.75	22.22
	8H	24.27	24.85	24.78	25.36	25.85	20.89	21.48	21.41	21.99	22.47
	12H	24.48	25.00	24.99	25.49	26.05	21.14	21.65	21.65	22.15	22.71
12H	4H	23.29	23.99	23.77	24.47	24.94	19.93	20.63	20.41	21.11	21.58
	6H	23.99	24.57	24.50	25.08	25.57	20.69	21.27	21.20	21.78	22.27
	8H	24.30	24.81	24.81	25.31	25.87	21.04	21.55	21.55	22.04	22.61