

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: P1055953

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

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055953  
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-S1020D830-X4F0-XX-UDD-F-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

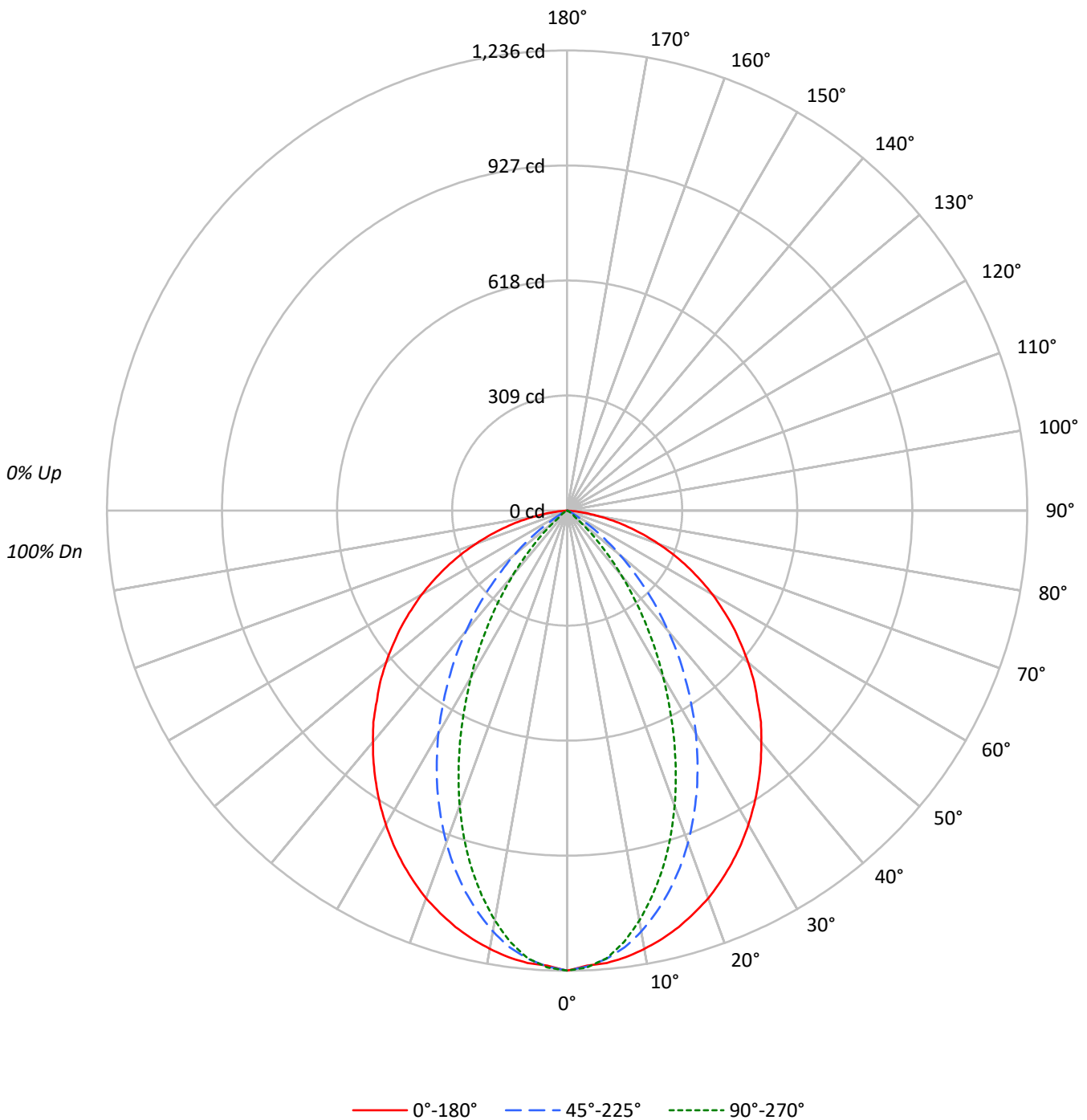
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1726.7 lumens  
Efficiency: N/A  
Efficacy: 49.8 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<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	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°	10924	10924	10924
5°	10825	10728	10718
10°	10733	10308	10037
15°	10599	9690	9091
20°	10428	8935	7943
25°	10197	8046	6629
30°	9942	7061	5268
35°	9661	5987	3922
40°	9366	4879	2614
45°	9041	3726	1439
50°	8730	2549	400
55°	8382	1381	262
60°	7968	428	150
65°	7450	278	75
70°	6731	124	31
75°	5794	41	0
80°	4379	0	0
85°	1846	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9041 cd/sqm



TEST NUMBER: P1055953

CATALOG NUMBER: S124R3DR-S1020D830-X4F0-XX-UDD-F-B

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.0	6.6
10°-20°	299.2	17.3
20°-30°	386.6	22.4
30°-40°	369.6	21.4
40°-50°	276.4	16.0
50°-60°	164.5	9.5
60°-70°	83.5	4.8
70°-80°	29.0	1.7
80°-90°	4.0	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°	799.8	46.3
0°-40°	1169.4	67.7
0°-60°	1610.2	93.3
0°-90°	1726.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1726.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1236	1236	1236	1236	1236	
5°	1220	1229	1209	1203	1208	116
15°	1158	1134	1059	1009	993	326
25°	1045	973	825	716	680	481
35°	895	772	555	413	363	560
45°	723	555	298	159	115	559
55°	544	338	90	21	17	486
65°	356	137	13	5	4	352
75°	170	18	1	1	0	180
85°	18	0	0	0	0	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1235.5	1235.5	1235.5	1235.5	1235.5
2.5°	1223.3	1237.9	1225.8	1227.0	1228.2
5°	1219.7	1229.4	1208.8	1202.7	1207.6
7.5°	1210.0	1213.6	1183.4	1167.6	1168.8
10°	1195.5	1191.8	1148.2	1121.6	1118.0
12.5°	1178.5	1166.4	1105.9	1067.1	1058.6
15°	1157.9	1133.7	1058.6	1009.0	993.2
17.5°	1133.7	1098.6	1006.5	941.1	921.7
20°	1108.3	1059.8	949.6	868.5	844.2
22.5°	1078.0	1016.2	887.8	792.1	761.9
25°	1045.3	972.6	824.8	715.8	679.5
27.5°	1011.4	925.4	758.2	638.3	595.9
30°	973.8	875.7	691.6	559.6	516.0
32.5°	935.1	824.8	622.6	486.9	438.5
35°	895.1	771.6	554.7	413.0	363.4
37.5°	853.9	718.3	489.3	342.8	291.9
40°	811.5	663.8	422.7	276.2	226.5
42.5°	770.3	609.2	359.7	213.2	167.1
45°	723.1	554.7	298.0	158.7	115.1
47.5°	680.7	501.4	238.6	107.8	67.8
50°	634.7	444.5	185.3	63.0	29.1
52.5°	588.7	391.2	135.7	27.9	21.8
55°	543.8	337.9	89.6	20.6	17.0
57.5°	496.6	284.6	48.4	15.7	12.1
60°	450.6	232.6	24.2	12.1	8.5
62.5°	403.3	182.9	19.4	7.3	4.8
65°	356.1	136.9	13.3	4.8	3.6
67.5°	308.9	93.3	8.5	2.4	1.2
70°	260.4	56.9	4.8	1.2	1.2
72.5°	214.4	29.1	2.4	1.2	1.2
75°	169.6	18.2	1.2	1.2	0.0
77.5°	126.0	9.7	1.2	1.2	0.0
80°	86.0	3.6	0.0	0.0	0.0
82.5°	49.7	1.2	0.0	0.0	0.0
85°	18.2	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

TEST NUMBER: P1055953

CATALOG NUMBER: S124R3DR-S1020D830-X4F0-XX-UDD-F-B

**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	18.76	20.09	19.13	20.40	20.72	0.00	0.00	0.00	0.00	0.00
	3H	20.30	21.48	20.68	21.81	22.18	0.00	0.00	0.00	0.00	0.00
	4H	20.90	21.99	21.30	22.34	22.73	0.00	0.00	0.00	0.00	0.00
	6H	21.32	22.32	21.73	22.69	23.09	0.00	0.00	0.00	0.00	0.00
	8H	21.41	22.37	21.84	22.76	23.16	0.00	0.00	0.00	0.00	0.00
	12H	21.43	22.34	21.87	22.73	23.16	0.00	0.00	0.00	0.00	0.00
4H	2H	18.54	19.63	18.94	19.99	20.37	0.00	0.00	0.00	0.00	0.23
	3H	20.10	21.00	20.52	21.40	21.80	0.00	0.00	0.00	0.00	0.06
	4H	20.69	21.48	21.12	21.90	22.35	0.00	0.00	0.00	0.00	0.00
	6H	21.15	21.83	21.61	22.28	22.75	0.00	0.00	0.00	0.00	0.00
	8H	21.27	21.91	21.74	22.35	22.83	0.00	0.00	0.00	0.00	0.00
	12H	21.31	21.87	21.79	22.36	22.83	0.00	0.00	0.00	0.00	0.00
8H	4H	20.55	21.19	21.02	21.64	22.11	0.05	0.69	0.52	1.13	1.61
	6H	20.99	21.51	21.49	22.01	22.49	0.00	0.48	0.46	0.97	1.46
	8H	21.11	21.58	21.63	22.09	22.58	0.00	0.36	0.42	0.88	1.37
	12H	21.16	21.57	21.67	22.06	22.64	0.00	0.26	0.37	0.76	1.33
12H	4H	20.50	21.07	20.99	21.55	22.03	0.46	1.03	0.95	1.51	1.98
	6H	20.93	21.40	21.45	21.91	22.41	0.35	0.82	0.87	1.34	1.83
	8H	21.06	21.48	21.58	21.97	22.54	0.31	0.72	0.82	1.22	1.79