

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1056129

Luminaire Tested: S124R3DR-H1195D927-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056129  
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-H1195D927-X4F0-XX-UDD-FLL-W  
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

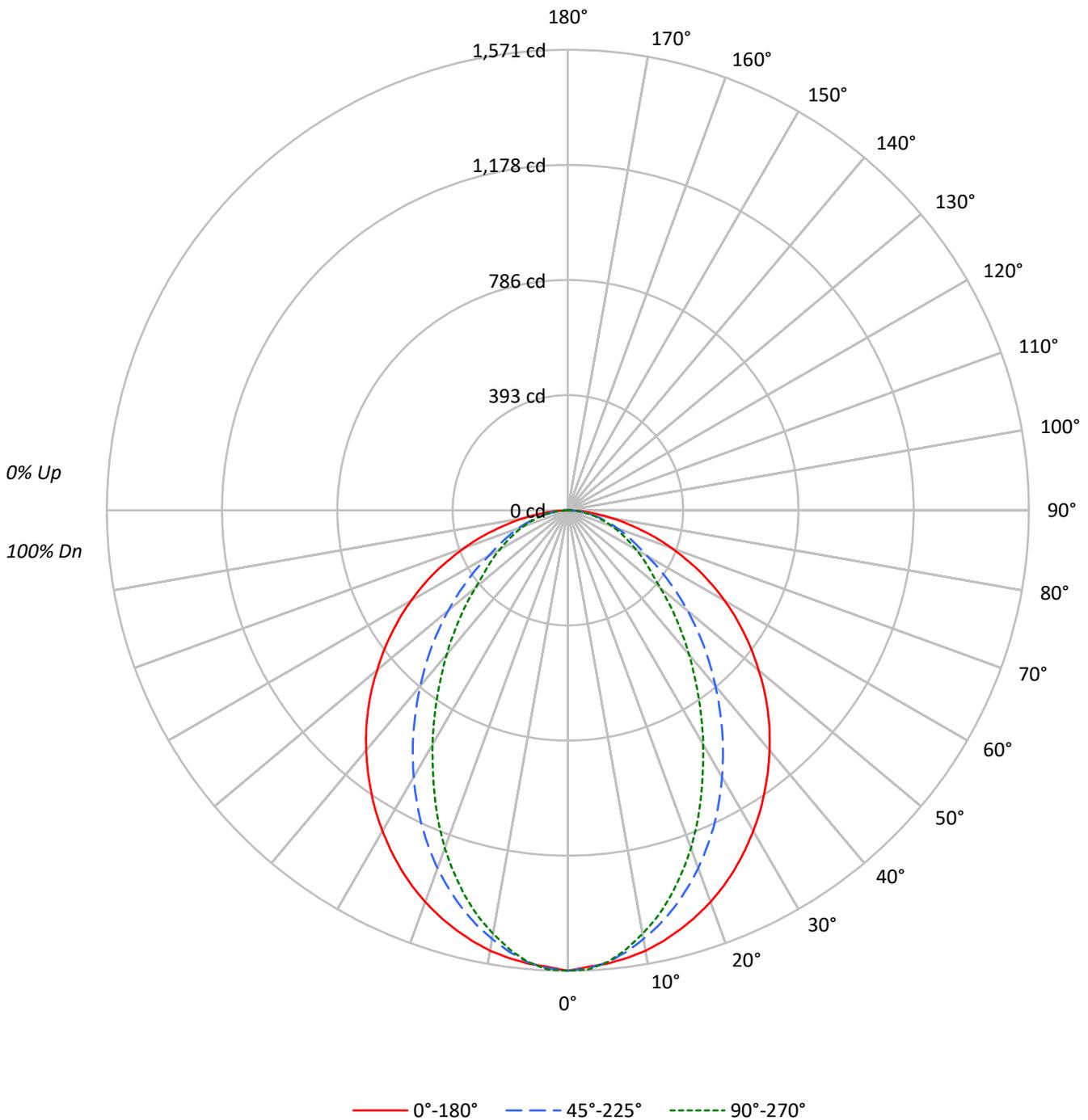
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3128.2 lumens  
Efficiency: N/A  
Efficacy: 85.5 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): 36.6  
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	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	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°	13886	13886	13886
5°	13775	13744	13734
10°	13696	13333	13167
15°	13551	12832	12440
20°	13375	12222	11537
25°	13157	11522	10485
30°	12896	10725	9415
35°	12624	9892	8382
40°	12338	9030	7417
45°	12037	8194	6517
50°	11668	7312	5627
55°	11313	6431	5113
60°	10912	5517	4741
65°	10420	5004	4425
70°	9678	4630	4183
75°	8766	4263	3949
80°	7648	3941	3707
85°	5863	3632	3398

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12037 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	146.2	4.7
10°-20°	396.6	12.7
20°-30°	549.2	17.6
30°-40°	589.5	18.8
40°-50°	536.1	17.1
50°-60°	422.1	13.5
60°-70°	288.9	9.2
70°-80°	155.5	5.0
80°-90°	44.0	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°	1092.1	34.9
0°-40°	1681.5	53.8
0°-60°	2639.7	84.4
0°-90°	3128.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3128.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1571	1571	1571	1571	1571	
5°	1552	1569	1549	1540	1548	147
15°	1480	1464	1402	1364	1359	417
25°	1349	1293	1181	1096	1075	621
35°	1170	1078	916	806	777	732
45°	963	840	655	542	521	742
55°	734	594	417	336	332	656
65°	498	356	239	213	212	491
75°	257	156	125	114	116	274
85°	58	39	36	34	34	69
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1570.6	1570.6	1570.6	1570.6	1570.6
2.5°	1559.0	1577.5	1563.7	1566.0	1568.3
5°	1552.1	1569.4	1548.6	1540.5	1547.5
7.5°	1540.5	1552.1	1519.7	1504.7	1511.7
10°	1525.5	1527.8	1485.1	1463.1	1466.6
12.5°	1504.7	1498.9	1446.9	1415.7	1418.0
15°	1480.5	1464.3	1401.9	1363.7	1359.1
17.5°	1452.7	1426.1	1352.2	1303.6	1294.4
20°	1421.5	1385.7	1299.0	1236.6	1226.2
22.5°	1386.8	1340.6	1241.2	1167.3	1152.2
25°	1348.7	1293.2	1181.1	1095.6	1074.8
27.5°	1307.1	1242.4	1116.4	1022.8	996.2
30°	1263.2	1189.2	1050.5	950.0	922.2
32.5°	1218.1	1134.9	983.5	877.2	848.3
35°	1169.6	1078.3	916.5	805.5	776.6
37.5°	1119.9	1019.3	848.3	736.2	706.1
40°	1069.0	960.4	782.4	666.8	642.6
42.5°	1017.0	900.3	717.7	602.1	580.2
45°	962.7	840.2	655.3	542.0	521.2
47.5°	907.2	778.9	591.7	485.4	465.7
50°	848.3	717.7	531.6	429.9	409.1
52.5°	791.7	655.3	473.8	375.6	365.2
55°	733.9	594.0	417.2	336.3	331.7
57.5°	676.1	532.8	365.2	305.1	300.5
60°	617.1	472.7	312.0	272.7	268.1
62.5°	558.2	413.7	272.7	241.5	239.2
65°	498.1	356.0	239.2	212.6	211.5
67.5°	434.5	300.5	209.2	187.2	186.1
70°	374.4	245.0	179.1	161.8	161.8
72.5°	317.8	194.2	151.4	137.5	137.5
75°	256.6	156.0	124.8	114.4	115.6
77.5°	202.2	122.5	100.5	93.6	93.6
80°	150.2	91.3	77.4	71.7	72.8
82.5°	101.7	63.6	55.5	52.0	52.0
85°	57.8	39.3	35.8	33.5	33.5
87.5°	20.8	18.5	17.3	15.0	16.2
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	20.28	21.81	20.65	22.12	22.44	16.06	17.58	16.42	17.90	18.21
	3H	22.06	23.43	22.44	23.76	24.12	17.67	19.04	18.05	19.37	19.73
	4H	22.73	24.02	23.13	24.36	24.74	18.30	19.59	18.70	19.94	20.32
	6H	23.24	24.43	23.65	24.79	25.19	18.80	19.99	19.21	20.36	20.75
	8H	23.40	24.53	23.83	24.92	25.32	18.97	20.10	19.40	20.49	20.90
	12H	23.50	24.58	23.93	24.97	25.40	19.09	20.18	19.52	20.56	20.99
4H	2H	20.38	21.66	20.78	22.01	22.39	16.78	18.06	17.18	18.41	18.79
	3H	22.32	23.39	22.73	23.79	24.19	18.59	19.66	19.00	20.06	20.46
	4H	23.08	24.04	23.51	24.46	24.90	19.32	20.29	19.75	20.70	21.14
	6H	23.71	24.55	24.17	24.99	25.45	19.94	20.78	20.40	21.22	21.68
	8H	23.93	24.72	24.40	25.16	25.63	20.15	20.94	20.62	21.38	21.85
	12H	24.09	24.79	24.57	25.27	25.74	20.32	21.02	20.80	21.50	21.97
8H	4H	23.14	23.92	23.60	24.36	24.83	19.71	20.50	20.17	20.94	21.41
	6H	23.83	24.48	24.33	24.97	25.45	20.44	21.09	20.94	21.58	22.06
	8H	24.10	24.68	24.62	25.19	25.68	20.73	21.31	21.24	21.82	22.31
	12H	24.32	24.84	24.83	25.33	25.89	20.98	21.49	21.49	21.98	22.55
12H	4H	23.13	23.83	23.61	24.31	24.78	19.77	20.47	20.25	20.95	21.42
	6H	23.83	24.41	24.34	24.92	25.41	20.53	21.11	21.04	21.62	22.11
	8H	24.14	24.65	24.65	25.14	25.71	20.87	21.39	21.38	21.88	22.45