

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: P1056133

Luminaire Tested: S124R3DR-H1195D935-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056133  
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-H1195D935-X4F0-XX-UDD-FLL-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

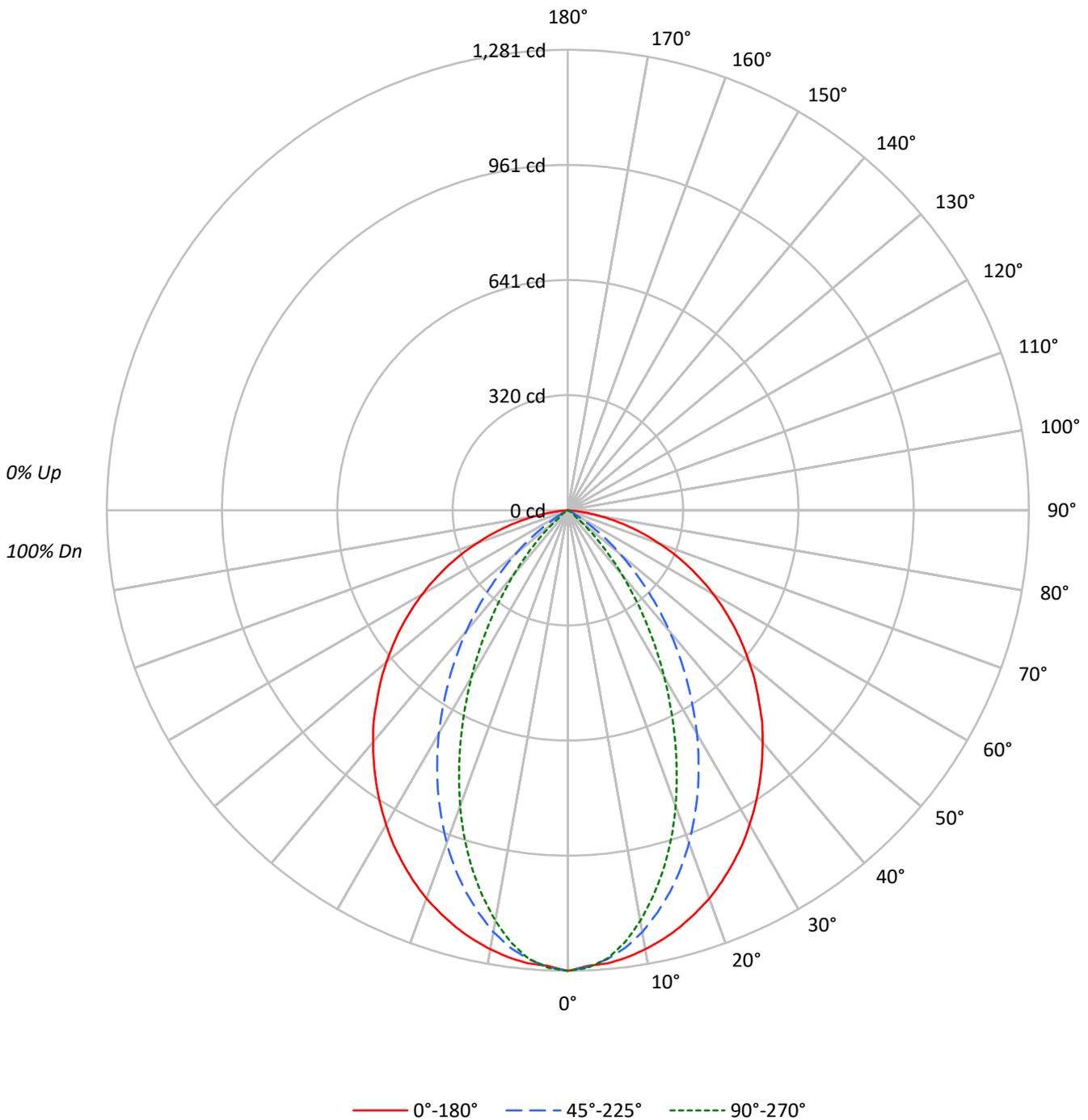
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1790.7 lumens  
Efficiency: N/A  
Efficacy: 48.9 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	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°	11328	11328	11328
5°	11226	11126	11114
10°	11131	10691	10409
15°	10991	10048	9428
20°	10814	9266	8237
25°	10575	8345	6875
30°	10310	7322	5463
35°	10019	6209	4067
40°	9713	5060	2711
45°	9376	3864	1492
50°	9053	2644	414
55°	8694	1434	271
60°	8263	444	156
65°	7726	289	79
70°	6982	129	34
75°	6009	44	0
80°	4542	0	0
85°	1907	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9376 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.2	6.6
10°-20°	310.3	17.3
20°-30°	401.0	22.4
30°-40°	383.2	21.4
40°-50°	286.6	16.0
50°-60°	170.6	9.5
60°-70°	86.6	4.8
70°-80°	30.1	1.7
80°-90°	4.1	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°	829.5	46.3
0°-40°	1212.7	67.7
0°-60°	1669.9	93.3
0°-90°	1790.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1790.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1281	1281	1281	1281	1281	
5°	1265	1275	1254	1247	1252	120
15°	1201	1176	1098	1046	1030	338
25°	1084	1009	855	742	705	499
35°	928	800	575	428	377	580
45°	750	575	309	164	119	580
55°	564	350	93	21	18	504
65°	369	142	14	5	4	365
75°	176	19	1	1	0	187
85°	19	0	0	0	0	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1281.2	1281.2	1281.2	1281.2	1281.2
2.5°	1268.7	1283.7	1271.2	1272.4	1273.7
5°	1264.9	1274.9	1253.6	1247.3	1252.3
7.5°	1254.8	1258.6	1227.2	1210.9	1212.1
10°	1239.8	1236.0	1190.8	1163.1	1159.4
12.5°	1222.2	1209.6	1146.8	1106.6	1097.8
15°	1200.8	1175.7	1097.8	1046.3	1030.0
17.5°	1175.7	1139.3	1043.8	976.0	955.9
20°	1149.3	1099.1	984.8	900.6	875.5
22.5°	1117.9	1053.9	920.7	821.5	790.1
25°	1084.0	1008.6	855.4	742.4	704.7
27.5°	1048.8	959.7	786.3	662.0	618.0
30°	1009.9	908.2	717.2	580.3	535.1
32.5°	969.7	855.4	645.6	504.9	454.7
35°	928.3	800.1	575.3	428.3	376.8
37.5°	885.5	744.9	507.5	355.5	302.7
40°	841.6	688.3	438.4	286.4	234.9
42.5°	798.9	631.8	373.1	221.1	173.3
45°	749.9	575.3	309.0	164.5	119.3
47.5°	705.9	520.0	247.5	111.8	70.3
50°	658.2	461.0	192.2	65.3	30.1
52.5°	610.5	405.7	140.7	28.9	22.6
55°	564.0	350.5	93.0	21.4	17.6
57.5°	515.0	295.2	50.2	16.3	12.6
60°	467.3	241.2	25.1	12.6	8.8
62.5°	418.3	189.7	20.1	7.5	5.0
65°	369.3	141.9	13.8	5.0	3.8
67.5°	320.3	96.7	8.8	2.5	1.3
70°	270.1	59.0	5.0	1.3	1.3
72.5°	222.3	30.1	2.5	1.3	1.3
75°	175.9	18.8	1.3	1.3	0.0
77.5°	130.6	10.0	1.3	1.3	0.0
80°	89.2	3.8	0.0	0.0	0.0
82.5°	51.5	1.3	0.0	0.0	0.0
85°	18.8	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	18.89	20.22	19.25	20.53	20.84	0.00	0.00	0.00	0.00	0.00
	3H	20.43	21.61	20.81	21.94	22.30	0.00	0.00	0.00	0.00	0.00
	4H	21.02	22.12	21.43	22.47	22.85	0.00	0.00	0.00	0.00	0.00
	6H	21.44	22.45	21.86	22.82	23.21	0.00	0.00	0.00	0.00	0.00
	8H	21.54	22.49	21.97	22.88	23.29	0.00	0.00	0.00	0.00	0.00
	12H	21.56	22.47	21.99	22.85	23.28	0.00	0.00	0.00	0.00	0.00
4H	2H	18.67	19.76	19.07	20.11	20.50	0.00	0.00	0.00	0.00	0.36
	3H	20.23	21.12	20.64	21.53	21.93	0.00	0.00	0.00	0.00	0.20
	4H	20.81	21.61	21.25	22.03	22.47	0.00	0.00	0.00	0.00	0.11
	6H	21.27	21.96	21.74	22.41	22.87	0.00	0.00	0.00	0.00	0.00
	8H	21.39	22.03	21.86	22.48	22.95	0.00	0.00	0.00	0.00	0.00
	12H	21.43	22.00	21.92	22.48	22.96	0.00	0.00	0.00	0.00	0.00
8H	4H	20.68	21.32	21.15	21.76	22.24	0.18	0.82	0.65	1.27	1.74
	6H	21.12	21.64	21.62	22.14	22.62	0.09	0.61	0.59	1.11	1.59
	8H	21.23	21.70	21.76	22.22	22.71	0.03	0.50	0.55	1.01	1.51
	12H	21.28	21.70	21.80	22.19	22.76	0.00	0.40	0.50	0.89	1.47
12H	4H	20.63	21.20	21.12	21.68	22.15	0.59	1.16	1.08	1.64	2.12
	6H	21.05	21.52	21.58	22.04	22.53	0.49	0.95	1.01	1.47	1.96
	8H	21.19	21.60	21.71	22.10	22.67	0.44	0.86	0.96	1.35	1.92