

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: P1056140

Luminaire Tested: S124R3DR-H1195D950-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056140  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124R3DR-H1195D950-X4F0-XX-UDD-FLL-S  
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: -

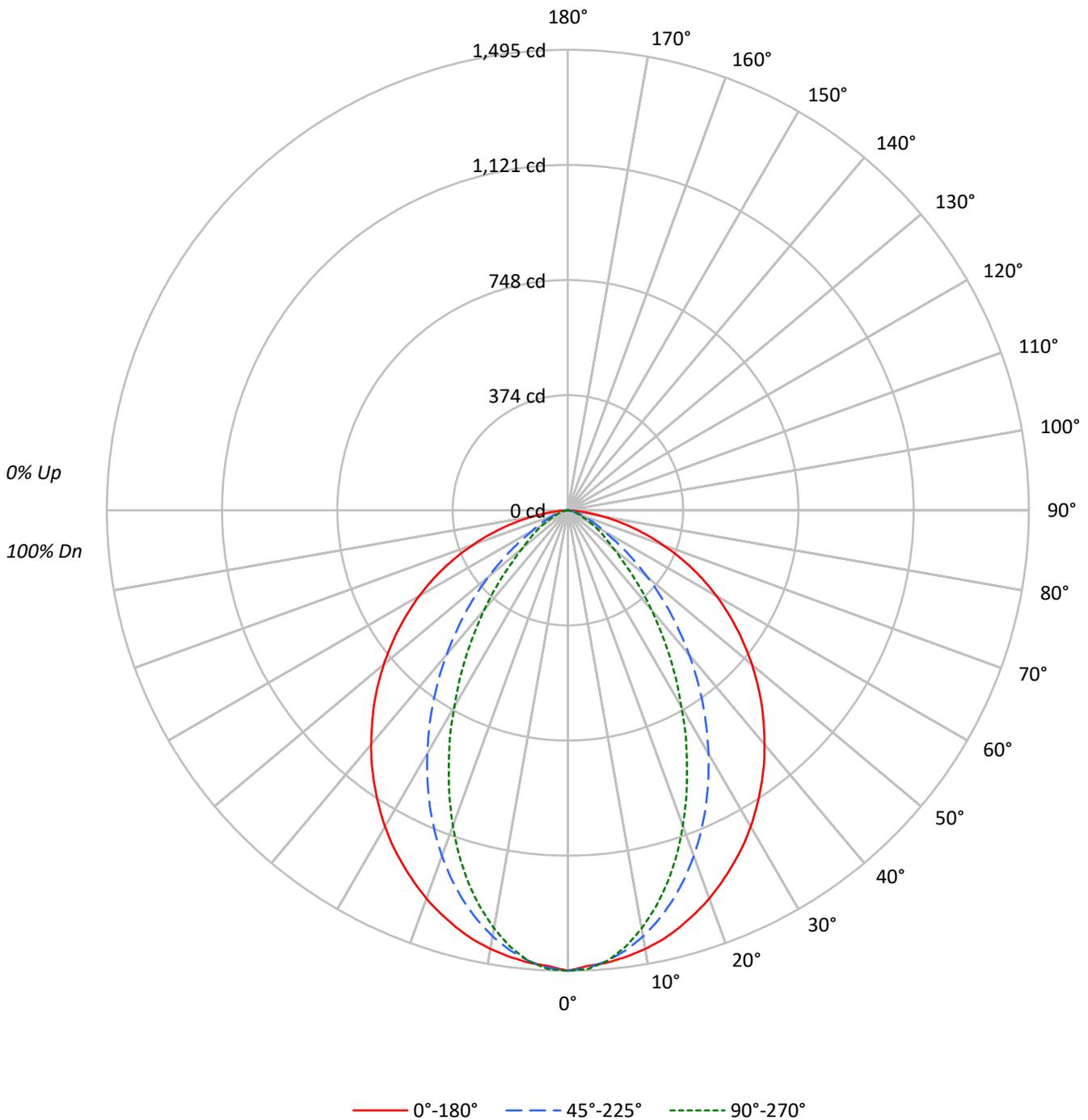
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2417.0 lumens  
Efficiency: N/A  
Efficacy: 66.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03  
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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89					89			
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78					78			
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68					68			
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62	60					60			
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54					54			
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	48					48			
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44					44			
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40					40			
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38	37					37			
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35	34					34			

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

	0°	45°	90°
0°	13216	13216	13216
5°	13081	13031	13031
10°	12983	12607	12370
15°	12828	12001	11440
20°	12624	11235	10254
25°	12369	10332	8907
30°	12106	9307	7503
35°	11792	8217	6174
40°	11453	7052	4867
45°	11103	5864	3637
50°	10720	4613	2662
55°	10298	3411	2124
60°	9844	2362	1625
65°	9259	1835	1195
70°	8383	1295	936
75°	7321	902	714
80°	5881	708	636
85°	3246	568	568

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11103 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.6	5.7
10°-20°	370.5	15.3
20°-30°	494.1	20.4
30°-40°	497.5	20.6
40°-50°	408.0	16.9
50°-60°	278.9	11.5
60°-70°	155.8	6.4
70°-80°	61.8	2.6
80°-90°	11.7	0.5
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°	1003.2	41.5
0°-40°	1500.7	62.1
0°-60°	2187.6	90.5
0°-90°	2417.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2417.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1495	1495	1495	1495	1495	
5°	1474	1491	1468	1461	1468	140
15°	1402	1386	1311	1265	1250	395
25°	1268	1205	1059	952	913	584
35°	1092	977	761	617	572	683
45°	888	725	469	330	291	684
55°	668	469	221	148	138	597
65°	443	223	88	63	57	437
75°	214	58	26	22	21	230
85°	32	6	6	6	6	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1494.8	1494.8	1494.8	1494.8	1494.8
2.5°	1480.8	1498.9	1486.4	1487.8	1490.6
5°	1473.9	1490.6	1468.3	1461.4	1468.3
7.5°	1461.4	1473.9	1440.5	1426.6	1429.4
10°	1446.1	1450.2	1404.3	1380.6	1377.9
12.5°	1426.6	1421.0	1361.2	1326.4	1318.0
15°	1401.5	1386.2	1311.1	1265.1	1249.8
17.5°	1372.3	1345.8	1255.4	1195.5	1173.3
20°	1341.7	1302.7	1194.1	1117.6	1089.8
22.5°	1305.5	1256.8	1128.7	1035.5	1003.5
25°	1267.9	1205.3	1059.1	952.0	913.0
27.5°	1228.9	1152.4	986.8	867.1	828.1
30°	1185.8	1095.3	911.6	782.2	734.9
32.5°	1139.9	1036.9	836.5	698.7	654.1
35°	1092.5	977.0	761.3	616.6	572.0
37.5°	1043.8	915.8	686.1	538.6	494.1
40°	992.3	853.2	611.0	464.9	421.7
42.5°	939.4	789.1	538.6	395.3	354.9
45°	888.0	725.1	469.0	329.9	290.9
47.5°	833.7	661.1	400.8	268.6	235.2
50°	779.4	597.1	335.4	215.7	193.5
52.5°	723.7	533.0	275.6	176.8	161.4
55°	668.1	469.0	221.3	147.5	137.8
57.5°	612.4	405.0	171.2	125.3	114.1
60°	556.7	342.4	133.6	101.6	91.9
62.5°	499.6	279.7	110.0	80.7	72.4
65°	442.6	222.7	87.7	62.6	57.1
67.5°	385.5	169.8	66.8	48.7	44.5
70°	324.3	121.1	50.1	37.6	36.2
72.5°	271.4	82.1	36.2	29.2	27.8
75°	214.3	58.5	26.4	22.3	20.9
77.5°	165.6	37.6	19.5	18.1	16.7
80°	115.5	20.9	13.9	12.5	12.5
82.5°	71.0	11.1	9.7	8.4	8.4
85°	32.0	5.6	5.6	5.6	5.6
87.5°	5.6	2.8	2.8	2.8	2.8
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	19.69	21.10	20.06	21.41	21.73	10.78	12.19	11.15	12.50	12.82
	3H	21.28	22.53	21.66	22.86	23.22	11.38	12.63	11.75	12.96	13.32
	4H	21.87	23.04	22.28	23.39	23.77	11.53	12.70	11.93	13.05	13.43
	6H	22.31	23.38	22.72	23.75	24.14	11.64	12.71	12.05	13.08	13.48
	8H	22.42	23.44	22.85	23.83	24.23	11.66	12.68	12.09	13.07	13.47
	12H	22.46	23.44	22.89	23.82	24.25	11.67	12.64	12.10	13.03	13.46
4H	2H	19.55	20.72	19.95	21.07	21.45	11.37	12.54	11.77	12.89	13.27
	3H	21.19	22.15	21.61	22.56	22.96	12.08	13.04	12.49	13.44	13.84
	4H	21.80	22.66	22.23	23.08	23.52	12.28	13.14	12.72	13.56	14.00
	6H	22.29	23.03	22.75	23.48	23.94	12.45	13.19	12.91	13.64	14.10
	8H	22.44	23.13	22.90	23.57	24.04	12.48	13.17	12.95	13.62	14.09
	12H	22.51	23.12	22.99	23.60	24.08	12.51	13.12	12.99	13.60	14.08
8H	4H	21.69	22.39	22.16	22.83	23.30	12.55	13.25	13.02	13.69	14.16
	6H	22.17	22.74	22.67	23.24	23.72	12.76	13.32	13.26	13.82	14.30
	8H	22.32	22.83	22.84	23.34	23.83	12.82	13.32	13.34	13.84	14.33
	12H	22.41	22.86	22.92	23.35	23.92	12.88	13.33	13.39	13.82	14.39
12H	4H	21.65	22.27	22.14	22.75	23.22	12.58	13.20	13.07	13.68	14.15
	6H	22.12	22.63	22.64	23.14	23.63	12.79	13.30	13.31	13.81	14.30
	8H	22.28	22.73	22.80	23.23	23.80	12.88	13.33	13.39	13.82	14.39