

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: P1056126

Luminaire Tested: S124R3DR-H1195D850-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056126  
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-H1195D850-X4F0-XX-UDD-FLL-W  
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

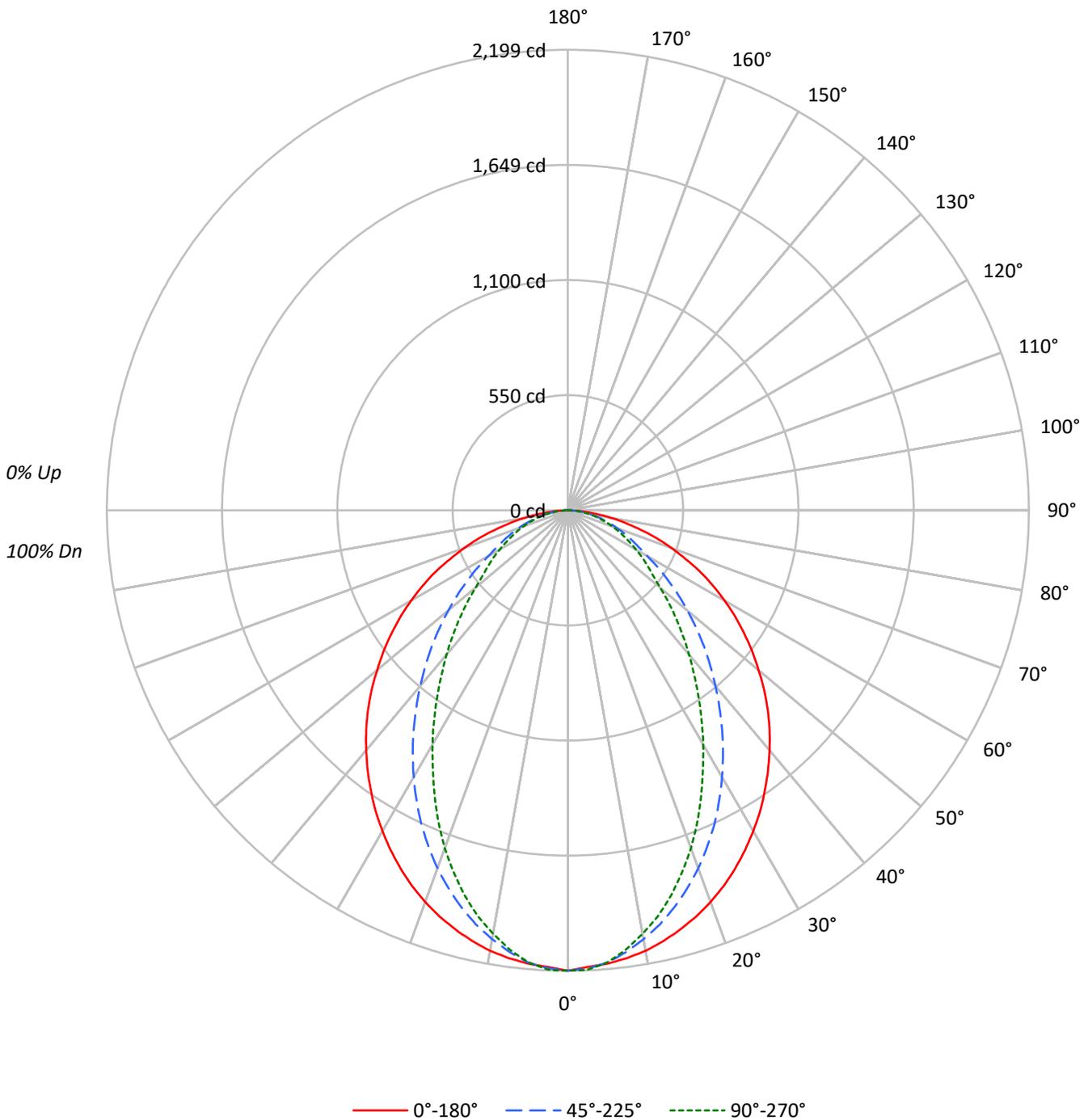
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4379.3 lumens  
Efficiency: N/A  
Efficacy: 119.7 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	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°	19440	19440	19440
5°	19284	19241	19227
10°	19173	18665	18432
15°	18970	17963	17416
20°	18724	17110	16151
25°	18419	16131	14679
30°	18054	15015	13181
35°	17672	13848	11735
40°	17273	12642	10383
45°	16851	11471	9124
50°	16334	10236	7877
55°	15837	9004	7157
60°	15278	7724	6638
65°	14588	7006	6195
70°	13551	6483	5855
75°	12270	5968	5527
80°	10708	5519	5188
85°	8207	5092	4758

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 16851 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	204.7	4.7
10°-20°	555.3	12.7
20°-30°	768.8	17.6
30°-40°	825.2	18.8
40°-50°	750.5	17.1
50°-60°	591.0	13.5
60°-70°	404.5	9.2
70°-80°	217.7	5.0
80°-90°	61.7	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°	1528.8	34.9
0°-40°	2354.0	53.8
0°-60°	3695.4	84.4
0°-90°	4379.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4379.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2199	2199	2199	2199	2199	
5°	2173	2197	2168	2157	2166	206
15°	2072	2050	1962	1909	1903	584
25°	1888	1810	1654	1534	1505	869
35°	1637	1510	1283	1128	1087	1024
45°	1348	1176	917	759	730	1039
55°	1027	832	584	471	464	919
65°	697	498	335	298	296	688
75°	359	218	175	160	162	383
85°	81	55	50	47	47	97
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2198.7	2198.7	2198.7	2198.7	2198.7
2.5°	2182.6	2208.4	2189.0	2192.3	2195.5
5°	2172.8	2197.1	2168.0	2156.7	2166.4
7.5°	2156.7	2172.8	2127.5	2106.5	2116.2
10°	2135.6	2138.9	2079.0	2048.3	2053.1
12.5°	2106.5	2098.4	2025.6	1981.9	1985.2
15°	2072.5	2049.9	1962.5	1909.1	1902.7
17.5°	2033.7	1996.5	1892.9	1825.0	1812.1
20°	1990.0	1939.9	1818.5	1731.2	1716.6
22.5°	1941.5	1876.8	1737.6	1634.1	1613.0
25°	1888.1	1810.4	1653.5	1533.8	1504.7
27.5°	1829.8	1739.2	1562.9	1431.8	1394.6
30°	1768.4	1664.8	1470.7	1329.9	1291.1
32.5°	1705.3	1588.8	1376.8	1228.0	1187.5
35°	1637.3	1509.5	1283.0	1127.7	1087.2
37.5°	1567.7	1427.0	1187.5	1030.6	988.5
40°	1496.6	1344.5	1095.3	933.5	899.6
42.5°	1423.8	1260.3	1004.7	842.9	812.2
45°	1347.7	1176.2	917.4	758.8	729.7
47.5°	1270.1	1090.5	828.4	679.5	652.0
50°	1187.5	1004.7	744.2	601.9	572.7
52.5°	1108.3	917.4	663.3	525.8	511.3
55°	1027.4	831.6	584.1	470.8	464.3
57.5°	946.5	745.9	511.3	427.1	420.7
60°	864.0	661.7	436.8	381.8	375.4
62.5°	781.4	579.2	381.8	338.1	334.9
65°	697.3	498.3	334.9	297.7	296.1
67.5°	608.3	420.7	292.8	262.1	260.5
70°	524.2	343.0	250.8	226.5	226.5
72.5°	444.9	271.8	211.9	192.5	192.5
75°	359.2	218.4	174.7	160.2	161.8
77.5°	283.1	171.5	140.8	131.1	131.1
80°	210.3	127.8	108.4	100.3	101.9
82.5°	142.4	89.0	77.7	72.8	72.8
85°	80.9	55.0	50.2	46.9	46.9
87.5°	29.1	25.9	24.3	21.0	22.7
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	21.45	22.98	21.82	23.29	23.60	17.23	18.75	17.59	19.07	19.38
	3H	23.23	24.60	23.60	24.92	25.29	18.84	20.21	19.22	20.54	20.90
	4H	23.90	25.18	24.30	25.53	25.91	19.47	20.76	19.87	21.11	21.48
	6H	24.41	25.60	24.82	25.96	26.35	19.97	21.16	20.38	21.53	21.92
	8H	24.57	25.70	25.00	26.09	26.49	20.14	21.27	20.57	21.66	22.06
	12H	24.67	25.75	25.10	26.14	26.57	20.26	21.35	20.69	21.73	22.16
4H	2H	21.55	22.83	21.95	23.18	23.56	17.95	19.23	18.35	19.58	19.96
	3H	23.49	24.56	23.90	24.96	25.36	19.75	20.82	20.17	21.22	21.63
	4H	24.25	25.21	24.68	25.63	26.06	20.49	21.46	20.92	21.87	22.31
	6H	24.88	25.72	25.34	26.16	26.62	21.11	21.95	21.56	22.39	22.85
	8H	25.10	25.89	25.56	26.33	26.80	21.32	22.11	21.79	22.55	23.02
	12H	25.26	25.96	25.74	26.44	26.91	21.49	22.19	21.97	22.67	23.14
8H	4H	24.30	25.09	24.77	25.53	26.00	20.88	21.67	21.34	22.11	22.58
	6H	25.00	25.65	25.50	26.14	26.62	21.61	22.26	22.11	22.75	23.23
	8H	25.27	25.85	25.78	26.36	26.85	21.90	22.48	22.41	22.99	23.48
	12H	25.49	26.00	26.00	26.50	27.06	22.15	22.66	22.65	23.15	23.72
12H	4H	24.30	25.00	24.78	25.48	25.95	20.94	21.64	21.42	22.12	22.59
	6H	25.00	25.58	25.51	26.09	26.58	21.69	22.28	22.21	22.79	23.28
	8H	25.30	25.82	25.81	26.31	26.88	22.04	22.56	22.55	23.05	23.62