

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: P1055694

Luminaire Tested: S123R3DR-H1000D850-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055694  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H1000D850-X4F0-XX-UDD-FLL-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

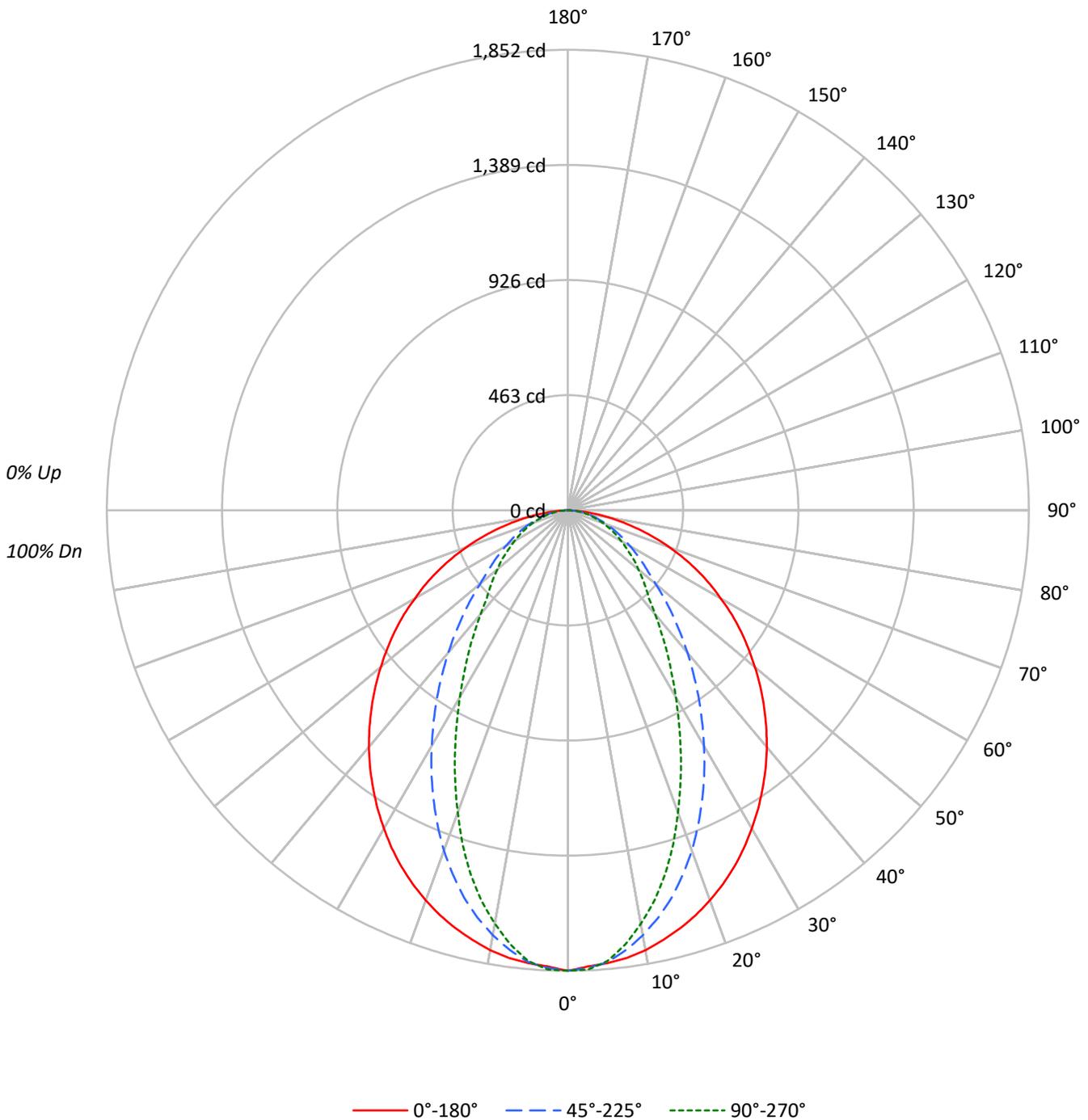
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3247.6 lumens  
Efficiency: N/A  
Efficacy: 105.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.9  
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	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86					86			
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74					74			
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65					65			
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57					57			
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50					50			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45					45			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40					40			
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37					37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34					34			
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31					31			

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

	0°	45°	90°
0°	22325	22325	22325
5°	22126	22075	22024
10°	21991	21245	20669
15°	21729	20122	18877
20°	21412	18676	16597
25°	21040	17005	14279
30°	20573	15212	12070
35°	20079	13454	10192
40°	19574	11749	8566
45°	18986	10131	7557
50°	18393	8624	6936
55°	17846	7685	6405
60°	17098	6947	5978
65°	16398	6362	5611
70°	15281	5859	5273
75°	13677	5418	4966
80°	11734	4999	4617
85°	8245	4593	4413

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 18986 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	171.6	5.3
10°-20°	454.1	14.0
20°-30°	598.2	18.4
30°-40°	607.2	18.7
40°-50°	527.8	16.3
50°-60°	413.5	12.7
60°-70°	280.9	8.7
70°-80°	152.2	4.7
80°-90°	41.9	1.3
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°	1224.0	37.7
0°-40°	1831.2	56.4
0°-60°	2772.5	85.4
0°-90°	3247.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3247.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1852	1852	1852	1852	1852	
5°	1828	1850	1824	1807	1820	174
15°	1741	1716	1612	1533	1512	491
25°	1582	1486	1278	1119	1073	728
35°	1364	1202	914	740	692	853
45°	1114	893	594	458	443	859
55°	849	590	366	312	305	758
65°	575	318	223	199	197	568
75°	294	147	116	108	107	313
85°	60	36	33	30	32	75
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1851.7	1851.7	1851.7	1851.7	1851.7
2.5°	1836.5	1860.0	1842.0	1843.4	1848.9
5°	1828.2	1850.3	1824.0	1807.4	1819.8
7.5°	1815.7	1832.3	1783.8	1757.5	1761.7
10°	1796.3	1801.8	1735.4	1693.8	1688.3
12.5°	1770.0	1760.3	1677.2	1616.3	1606.6
15°	1740.9	1716.0	1612.1	1533.2	1512.4
17.5°	1707.7	1666.1	1535.9	1439.0	1407.1
20°	1668.9	1610.7	1455.6	1332.3	1293.6
22.5°	1627.3	1552.5	1368.3	1222.9	1182.8
25°	1581.6	1486.1	1278.3	1119.1	1073.4
27.5°	1531.8	1419.6	1186.9	1016.6	965.3
30°	1477.8	1350.3	1092.7	916.8	867.0
32.5°	1422.4	1276.9	1002.7	824.1	775.6
35°	1364.2	1202.2	914.1	739.6	692.5
37.5°	1304.6	1126.0	828.2	659.2	614.9
40°	1243.7	1048.4	746.5	584.5	544.3
42.5°	1178.6	970.9	667.6	513.8	483.4
45°	1113.5	893.3	594.2	458.4	443.2
47.5°	1048.4	814.4	524.9	419.6	405.8
50°	980.6	738.2	459.8	383.6	369.8
52.5°	914.1	663.4	405.8	349.0	339.3
55°	849.0	590.0	365.6	311.6	304.7
57.5°	781.1	518.0	325.5	282.5	274.2
60°	709.1	448.7	288.1	252.1	247.9
62.5°	644.0	383.6	254.8	225.7	221.6
65°	574.8	318.5	223.0	199.4	196.7
67.5°	504.1	264.5	193.9	174.5	173.1
70°	433.5	223.0	166.2	151.0	149.6
72.5°	364.2	184.2	139.9	130.2	127.4
75°	293.6	146.8	116.3	108.0	106.6
77.5°	229.9	113.6	92.8	87.3	85.9
80°	169.0	84.5	72.0	67.9	66.5
82.5°	110.8	58.2	51.2	48.5	48.5
85°	59.6	36.0	33.2	30.5	31.9
87.5°	20.8	15.2	15.2	13.8	15.2
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	21.35	22.84	21.71	23.15	23.47	16.50	17.99	16.86	18.30	18.62
	3H	23.24	24.57	23.61	24.90	25.26	18.12	19.46	18.50	19.79	20.15
	4H	23.99	25.25	24.39	25.60	25.98	18.76	20.02	19.16	20.37	20.75
	6H	24.56	25.72	24.97	26.08	26.47	19.25	20.41	19.66	20.78	21.17
	8H	24.73	25.83	25.16	26.22	26.62	19.42	20.53	19.85	20.92	21.32
	12H	24.83	25.88	25.26	26.26	26.69	19.55	20.60	19.98	20.99	21.42
4H	2H	21.39	22.65	21.79	23.00	23.38	17.23	18.48	17.63	18.83	19.21
	3H	23.41	24.46	23.82	24.86	25.26	19.05	20.09	19.46	20.49	20.89
	4H	24.23	25.17	24.66	25.58	26.02	19.79	20.73	20.23	21.15	21.59
	6H	24.91	25.73	25.37	26.17	26.63	20.40	21.22	20.86	21.66	22.12
	8H	25.14	25.91	25.61	26.35	26.82	20.62	21.38	21.08	21.83	22.29
	12H	25.29	25.98	25.78	26.46	26.93	20.79	21.47	21.27	21.95	22.42
8H	4H	24.25	25.02	24.72	25.46	25.93	20.18	20.94	20.64	21.38	21.85
	6H	24.98	25.61	25.48	26.10	26.58	20.91	21.54	21.40	22.03	22.51
	8H	25.25	25.82	25.77	26.33	26.82	21.19	21.76	21.71	22.27	22.76
	12H	25.46	25.96	25.97	26.45	27.02	21.44	21.94	21.95	22.43	23.00
12H	4H	24.24	24.92	24.72	25.40	25.87	20.23	20.91	20.71	21.39	21.86
	6H	24.97	25.53	25.48	26.04	26.53	20.99	21.55	21.50	22.06	22.55
	8H	25.27	25.77	25.78	26.26	26.83	21.33	21.83	21.85	22.33	22.89