

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



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055712

Luminaire Tested: S123R3DR-H1165D830-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055712  
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-H1165D830-X4F0-XX-UDD-F-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

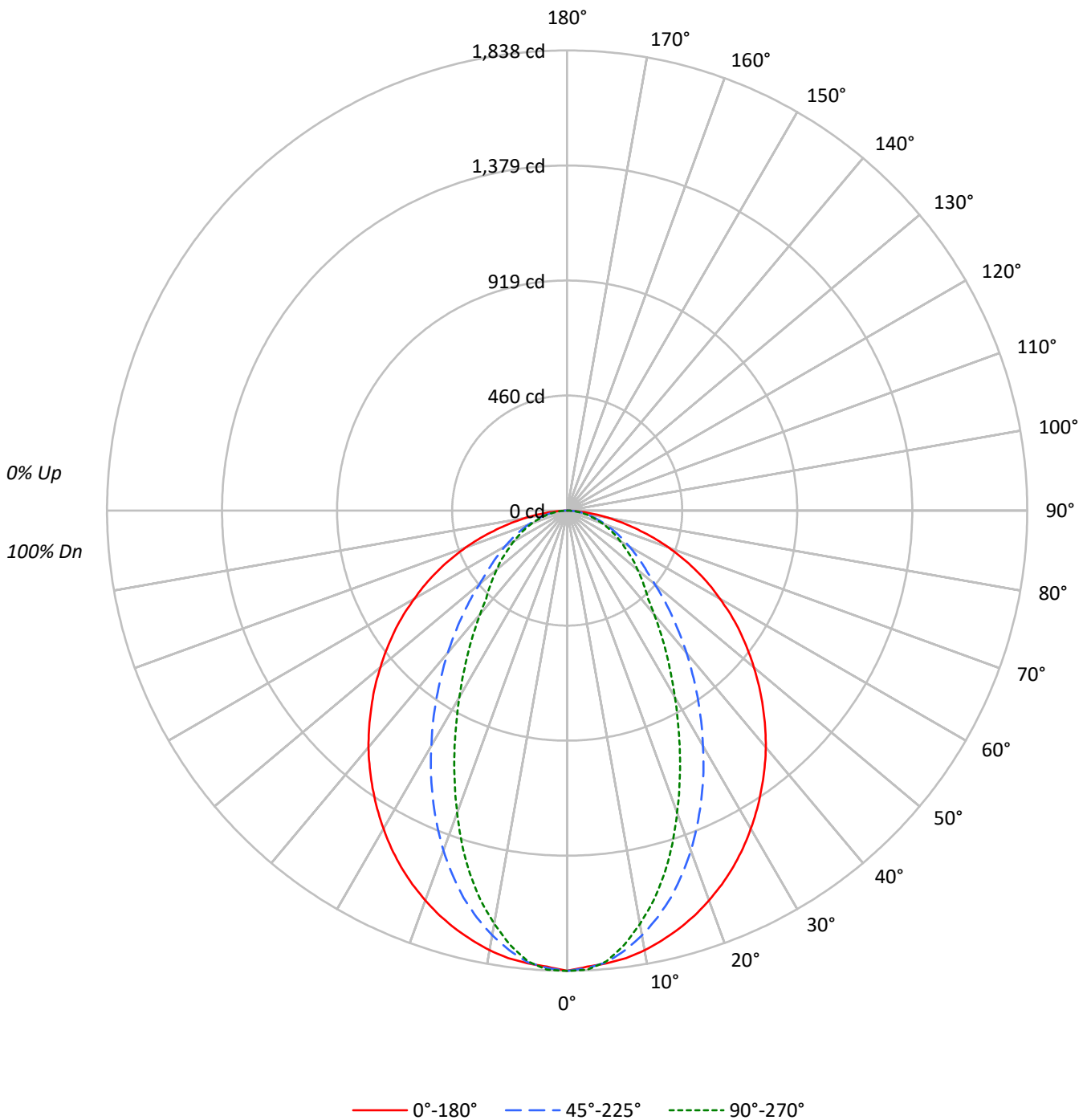
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3224.3 lumens  
Efficiency: N/A  
Efficacy: 88.1 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): 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	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°	22166	22166	22166
5°	21967	21918	21867
10°	21833	21092	20521
15°	21573	19978	18743
20°	21258	18542	16478
25°	20889	16884	14177
30°	20426	15103	11984
35°	19934	13357	10119
40°	19434	11665	8505
45°	18849	10058	7502
50°	18259	8562	6885
55°	17718	7630	6358
60°	16975	6896	5934
65°	16278	6316	5571
70°	15172	5816	5235
75°	13579	5380	4933
80°	11650	4964	4582
85°	8175	4565	4371

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 18849 cd/sqm

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CATALOG NUMBER: S123R3DR-H1165D830-X4F0-XX-UDD-F-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	170.4	5.3
10°-20°	450.9	14.0
20°-30°	594.0	18.4
30°-40°	602.8	18.7
40°-50°	524.0	16.3
50°-60°	410.6	12.7
60°-70°	278.9	8.7
70°-80°	151.2	4.7
80°-90°	41.6	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°	1215.3	37.7
0°-40°	1818.1	56.4
0°-60°	2752.6	85.4
0°-90°	3224.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3224.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1838	1838	1838	1838	1838	
5°	1815	1837	1811	1794	1807	172
15°	1728	1704	1601	1522	1502	487
25°	1570	1475	1269	1111	1066	723
35°	1354	1194	908	734	688	847
45°	1106	887	590	455	440	853
55°	843	586	363	309	302	752
65°	571	316	221	198	195	563
75°	292	146	116	107	106	311
85°	59	36	33	30	32	74
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1838.5	1838.5	1838.5	1838.5	1838.5
2.5°	1823.3	1846.7	1828.8	1830.2	1835.7
5°	1815.1	1837.1	1811.0	1794.5	1806.8
7.5°	1802.7	1819.2	1771.1	1744.9	1749.1
10°	1783.4	1788.9	1722.9	1681.7	1676.2
12.5°	1757.3	1747.7	1665.2	1604.7	1595.1
15°	1728.4	1703.7	1600.6	1522.2	1501.6
17.5°	1695.4	1654.2	1524.9	1428.7	1397.1
20°	1656.9	1599.2	1445.2	1322.8	1284.3
22.5°	1615.7	1541.4	1358.6	1214.2	1174.3
25°	1570.3	1475.4	1269.2	1111.0	1065.7
27.5°	1520.8	1409.4	1178.4	1009.3	958.4
30°	1467.2	1340.7	1084.9	910.3	860.8
32.5°	1412.2	1267.8	995.5	818.2	770.0
35°	1354.4	1193.5	907.5	734.3	687.5
37.5°	1295.3	1117.9	822.3	654.5	610.5
40°	1234.8	1040.9	741.2	580.3	540.4
42.5°	1170.2	963.9	662.8	510.1	479.9
45°	1105.5	886.9	589.9	455.1	440.0
47.5°	1040.9	808.5	521.1	416.6	402.9
50°	973.5	732.9	456.5	380.9	367.1
52.5°	907.5	658.7	402.9	346.5	336.9
55°	842.9	585.8	363.0	309.4	302.5
57.5°	775.5	514.3	323.1	280.5	272.3
60°	704.0	445.5	286.0	250.3	246.1
62.5°	639.4	380.9	253.0	224.1	220.0
65°	570.6	316.3	221.4	198.0	195.3
67.5°	500.5	262.6	192.5	173.3	171.9
70°	430.4	221.4	165.0	149.9	148.5
72.5°	361.6	182.9	138.9	129.3	126.5
75°	291.5	145.8	115.5	107.3	105.9
77.5°	228.3	112.8	92.1	86.6	85.3
80°	167.8	83.9	71.5	67.4	66.0
82.5°	110.0	57.8	50.9	48.1	48.1
85°	59.1	35.8	33.0	30.3	31.6
87.5°	20.6	15.1	15.1	13.8	15.1
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	21.32	22.82	21.69	23.13	23.44	16.47	17.96	16.84	18.28	18.59
	3H	23.21	24.55	23.59	24.88	25.24	18.10	19.44	18.48	19.77	20.13
	4H	23.97	25.22	24.37	25.57	25.95	18.74	19.99	19.14	20.34	20.72
	6H	24.53	25.69	24.94	26.06	26.45	19.23	20.39	19.64	20.75	21.15
	8H	24.70	25.81	25.13	26.20	26.60	19.40	20.50	19.82	20.89	21.29
	12H	24.80	25.86	25.23	26.24	26.67	19.52	20.58	19.95	20.96	21.39
4H	2H	21.37	22.63	21.77	22.97	23.35	17.20	18.46	17.60	18.81	19.18
	3H	23.39	24.43	23.80	24.83	25.23	19.02	20.07	19.43	20.47	20.87
	4H	24.20	25.14	24.64	25.56	26.00	19.77	20.71	20.20	21.12	21.56
	6H	24.89	25.70	25.35	26.15	26.61	20.38	21.20	20.84	21.64	22.10
	8H	25.12	25.88	25.58	26.33	26.79	20.59	21.36	21.06	21.80	22.27
	12H	25.27	25.95	25.75	26.43	26.90	20.76	21.44	21.24	21.92	22.39
8H	4H	24.23	24.99	24.69	25.44	25.90	20.15	20.92	20.62	21.36	21.83
	6H	24.96	25.59	25.46	26.08	26.56	20.88	21.51	21.38	22.00	22.48
	8H	25.23	25.79	25.74	26.30	26.79	21.17	21.73	21.68	22.24	22.73
	12H	25.44	25.94	25.95	26.43	26.99	21.41	21.91	21.92	22.40	22.97
12H	4H	24.21	24.90	24.70	25.37	25.85	20.21	20.89	20.69	21.37	21.84
	6H	24.94	25.51	25.46	26.02	26.51	20.96	21.53	21.48	22.04	22.53
	8H	25.25	25.75	25.76	26.24	26.81	21.31	21.81	21.82	22.30	22.87