

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: P1055685

Luminaire Tested: S123R3DR-H1000D830-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055685  
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-H1000D830-X4F0-XX-UDD-FLL-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: -

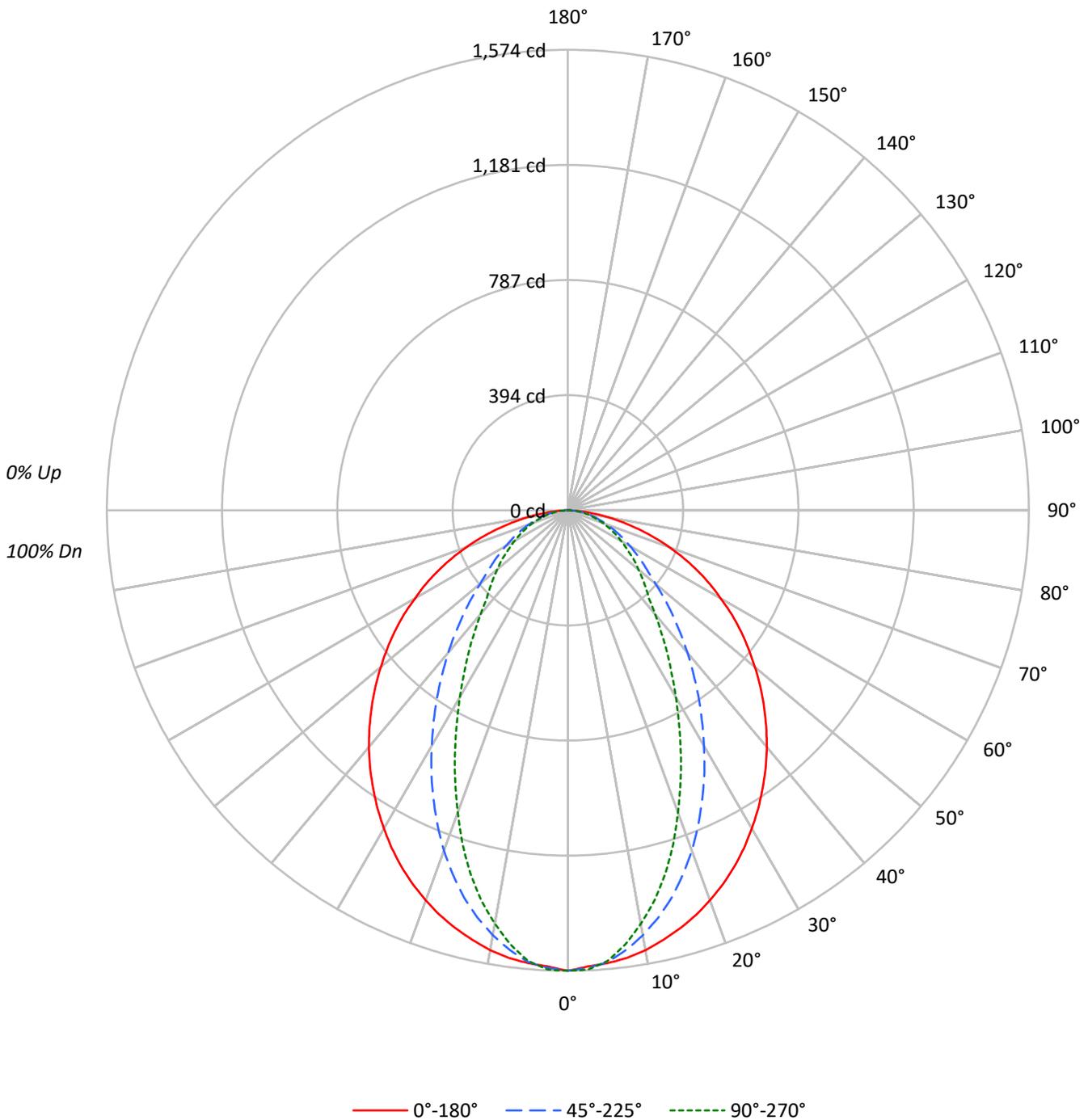
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2760.1 lumens  
Efficiency: N/A  
Efficacy: 89.3 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 (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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31

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

	0°	45°	90°
0°	18974	18974	18974
5°	18805	18761	18719
10°	18690	18056	17567
15°	18468	17101	16044
20°	18198	15872	14105
25°	17882	14453	12135
30°	17485	12929	10259
35°	17064	11435	8662
40°	16636	9986	7281
45°	16136	8610	6423
50°	15632	7330	5895
55°	15168	6533	5444
60°	14533	5903	5081
65°	13936	5406	4767
70°	12986	4981	4480
75°	11622	4607	4220
80°	9970	4249	3923
85°	7000	3915	3749

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 16136 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	145.9	5.3
10°-20°	386.0	14.0
20°-30°	508.4	18.4
30°-40°	516.1	18.7
40°-50°	448.6	16.3
50°-60°	351.4	12.7
60°-70°	238.8	8.7
70°-80°	129.4	4.7
80°-90°	35.6	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°	1040.3	37.7
0°-40°	1556.4	56.4
0°-60°	2356.4	85.4
0°-90°	2760.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2760.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1574	1574	1574	1574	1574	
5°	1554	1573	1550	1536	1547	148
15°	1480	1458	1370	1303	1285	417
25°	1344	1263	1086	951	912	619
35°	1159	1022	777	629	588	725
45°	946	759	505	390	377	730
55°	722	501	311	265	259	644
65°	488	271	190	170	167	482
75°	250	125	99	92	91	266
85°	51	31	28	26	27	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1573.8	1573.8	1573.8	1573.8	1573.8
2.5°	1560.8	1580.8	1565.5	1566.7	1571.4
5°	1553.8	1572.6	1550.2	1536.1	1546.7
7.5°	1543.2	1557.3	1516.1	1493.7	1497.3
10°	1526.7	1531.4	1474.9	1439.6	1434.9
12.5°	1504.3	1496.1	1425.5	1373.7	1365.4
15°	1479.6	1458.4	1370.1	1303.0	1285.4
17.5°	1451.4	1416.0	1305.4	1223.0	1195.9
20°	1418.4	1369.0	1237.1	1132.4	1099.4
22.5°	1383.1	1319.5	1163.0	1039.4	1005.2
25°	1344.2	1263.0	1086.5	951.1	912.2
27.5°	1301.9	1206.5	1008.8	864.0	820.4
30°	1256.0	1147.7	928.7	779.2	736.9
32.5°	1208.9	1085.3	852.2	700.4	659.2
35°	1159.4	1021.7	776.9	628.6	588.5
37.5°	1108.8	957.0	703.9	560.3	522.6
40°	1057.0	891.1	634.5	496.7	462.6
42.5°	1001.7	825.1	567.4	436.7	410.8
45°	946.4	759.2	505.0	389.6	376.7
47.5°	891.1	692.1	446.1	356.7	344.9
50°	833.4	627.4	390.8	326.1	314.3
52.5°	776.9	563.8	344.9	296.6	288.4
55°	721.6	501.4	310.8	264.8	259.0
57.5°	663.9	440.2	276.6	240.1	233.1
60°	602.7	381.4	244.8	214.2	210.7
62.5°	547.3	326.1	216.6	191.9	188.3
65°	488.5	270.7	189.5	169.5	167.1
67.5°	428.5	224.8	164.8	148.3	147.1
70°	368.4	189.5	141.3	128.3	127.1
72.5°	309.6	156.6	118.9	110.6	108.3
75°	249.5	124.8	98.9	91.8	90.6
77.5°	195.4	96.5	78.9	74.2	73.0
80°	143.6	71.8	61.2	57.7	56.5
82.5°	94.2	49.4	43.6	41.2	41.2
85°	50.6	30.6	28.3	25.9	27.1
87.5°	17.7	12.9	12.9	11.8	12.9
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	20.78	22.27	21.15	22.59	22.90	15.93	17.42	16.30	17.74	18.05
	3H	22.67	24.01	23.05	24.34	24.70	17.56	18.90	17.94	19.23	19.59
	4H	23.43	24.68	23.83	25.03	25.41	18.20	19.45	18.60	19.80	20.18
	6H	23.99	25.15	24.40	25.52	25.91	18.69	19.85	19.10	20.21	20.61
	8H	24.16	25.27	24.59	25.66	26.06	18.86	19.96	19.28	20.35	20.75
	12H	24.26	25.32	24.69	25.70	26.13	18.98	20.04	19.41	20.42	20.85
4H	2H	20.83	22.09	21.23	22.43	22.81	16.66	17.92	17.06	18.26	18.64
	3H	22.85	23.89	23.26	24.29	24.69	18.48	19.52	18.89	19.92	20.33
	4H	23.66	24.60	24.10	25.02	25.46	19.23	20.17	19.66	20.58	21.02
	6H	24.35	25.16	24.80	25.61	26.07	19.84	20.65	20.29	21.10	21.56
	8H	24.58	25.34	25.04	25.79	26.25	20.05	20.82	20.52	21.26	21.73
	12H	24.73	25.41	25.21	25.89	26.36	20.22	20.90	20.70	21.38	21.85
8H	4H	23.69	24.45	24.15	24.90	25.36	19.61	20.37	20.07	20.82	21.29
	6H	24.42	25.05	24.91	25.54	26.02	20.34	20.97	20.84	21.46	21.94
	8H	24.69	25.25	25.20	25.76	26.25	20.63	21.19	21.14	21.70	22.19
	12H	24.90	25.40	25.41	25.89	26.45	20.87	21.37	21.38	21.86	22.43
12H	4H	23.67	24.36	24.16	24.83	25.31	19.67	20.35	20.15	20.83	21.30
	6H	24.40	24.97	24.92	25.48	25.97	20.42	20.99	20.94	21.50	21.99
	8H	24.71	25.21	25.22	25.70	26.26	20.77	21.27	21.28	21.76	22.33