

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: P1055686

Luminaire Tested: S123R3DR-H1000D835-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055686  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H1000D835-X4F0-XX-UDD-FLL-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

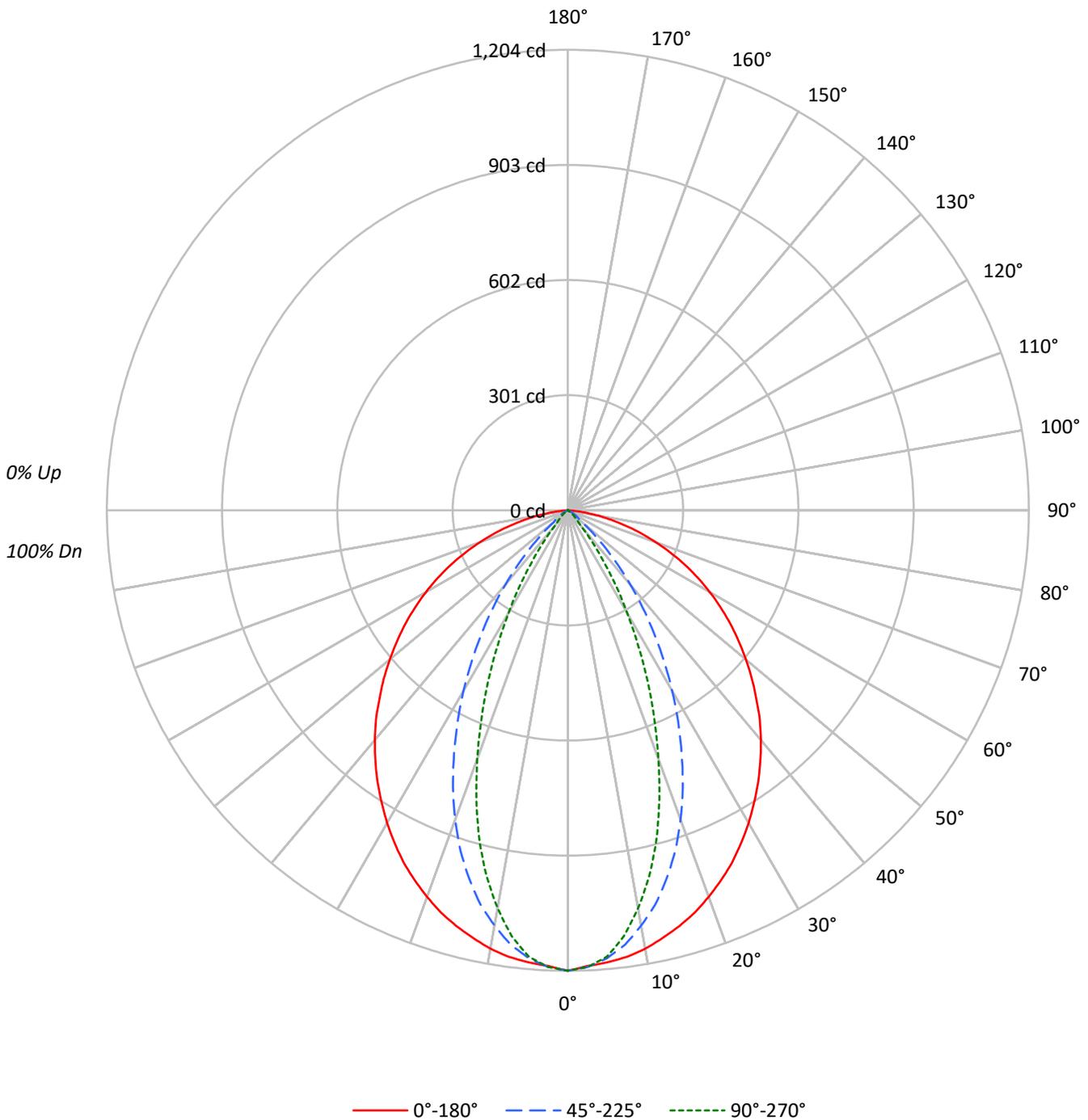
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1409.0 lumens  
Efficiency: N/A  
Efficacy: 45.6 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59
6	81	70	63	58	79	69	62	57	67	61	57	66	61	56	64	60	56	54
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

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

	0°	45°	90°
0°	14515	14515	14515
5°	14358	14223	14177
10°	14249	13500	12934
15°	14044	12439	11145
20°	13796	11040	8877
25°	13506	9353	6545
30°	13143	7580	4295
35°	12756	5771	2353
40°	12344	3990	806
45°	11860	2321	469
50°	11383	913	281
55°	10895	578	130
60°	10330	362	60
65°	9620	177	34
70°	8629	88	42
75°	7332	56	56
80°	5464	83	0
85°	2075	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11860 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.4	7.8
10°-20°	280.1	19.9
20°-30°	334.1	23.7
30°-40°	283.4	20.1
40°-50°	192.6	13.7
50°-60°	119.4	8.5
60°-70°	60.5	4.3
70°-80°	24.6	1.7
80°-90°	3.8	0.3
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°	724.6	51.4
0°-40°	1008.1	71.5
0°-60°	1320.1	93.7
0°-90°	1409.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1409.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1204	1204	1204	1204	1204	
5°	1186	1198	1175	1166	1171	113
15°	1125	1096	997	918	893	317
25°	1015	920	703	543	492	467
35°	867	696	392	211	160	542
45°	696	456	136	34	28	537
55°	518	230	28	10	6	463
65°	337	56	6	1	1	333
75°	157	10	1	1	1	167
85°	15	0	0	1	0	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1203.9	1203.9	1203.9	1203.9	1203.9
2.5°	1192.6	1208.9	1195.1	1193.9	1195.1
5°	1186.4	1197.6	1175.2	1166.4	1171.4
7.5°	1177.7	1182.7	1145.2	1122.7	1122.7
10°	1163.9	1160.2	1102.7	1065.3	1056.5
12.5°	1145.2	1130.2	1055.3	996.6	980.3
15°	1125.2	1096.5	996.6	917.9	892.9
17.5°	1102.7	1059.0	932.9	830.5	794.3
20°	1075.3	1016.6	860.5	735.6	691.9
22.5°	1046.5	970.4	784.3	638.2	589.5
25°	1015.3	920.4	703.1	543.2	492.0
27.5°	980.3	867.9	623.2	452.1	395.9
30°	944.1	813.0	544.5	364.7	308.5
32.5°	905.4	755.5	465.8	284.7	232.3
35°	866.7	695.6	392.1	211.1	159.9
37.5°	825.5	635.7	321.0	146.1	101.2
40°	784.3	577.0	253.5	92.4	51.2
42.5°	741.8	515.8	192.3	46.2	35.0
45°	695.6	455.8	136.1	33.7	27.5
47.5°	651.9	398.4	89.9	27.5	21.2
50°	606.9	340.9	48.7	20.0	15.0
52.5°	562.0	286.0	35.0	15.0	10.0
55°	518.3	229.8	27.5	10.0	6.2
57.5°	473.3	181.1	21.2	6.2	3.7
60°	428.4	133.6	15.0	3.7	2.5
62.5°	383.4	92.4	10.0	2.5	1.2
65°	337.2	56.2	6.2	1.2	1.2
67.5°	289.7	38.7	3.7	1.2	1.2
70°	244.8	27.5	2.5	1.2	1.2
72.5°	199.8	17.5	1.2	1.2	0.0
75°	157.4	10.0	1.2	1.2	1.2
77.5°	116.1	3.7	1.2	1.2	0.0
80°	78.7	1.2	1.2	1.2	0.0
82.5°	43.7	0.0	1.2	1.2	0.0
85°	15.0	0.0	0.0	1.2	0.0
87.5°	0.0	0.0	0.0	1.2	0.0
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	18.34	19.62	18.71	19.94	20.25	0.00	0.00	0.00	0.00	0.00
	3H	20.29	21.42	20.67	21.75	22.12	0.00	0.00	0.00	0.00	0.00
	4H	21.12	22.17	21.52	22.52	22.91	0.00	0.00	0.00	0.00	0.00
	6H	21.67	22.64	22.08	23.01	23.40	0.00	0.00	0.00	0.00	0.00
	8H	21.79	22.71	22.23	23.10	23.51	0.00	0.00	0.00	0.00	0.00
	12H	21.82	22.69	22.25	23.08	23.51	0.00	0.00	0.00	0.00	0.00
4H	2H	18.11	19.16	18.51	19.51	19.90	0.00	0.00	0.00	0.00	0.00
	3H	20.06	20.92	20.47	21.33	21.73	0.00	0.00	0.00	0.00	0.00
	4H	20.87	21.64	21.31	22.06	22.51	0.00	0.00	0.00	0.00	0.00
	6H	21.47	22.14	21.94	22.58	23.05	0.00	0.00	0.00	0.00	0.00
	8H	21.63	22.24	22.10	22.69	23.16	0.00	0.00	0.00	0.00	0.00
	12H	21.67	22.22	22.16	22.70	23.18	0.00	0.00	0.00	0.00	0.00
8H	4H	20.73	21.35	21.20	21.80	22.27	0.00	0.00	0.00	0.00	0.00
	6H	21.31	21.81	21.82	22.31	22.79	0.00	0.00	0.00	0.00	0.00
	8H	21.46	21.91	21.98	22.43	22.92	0.00	0.00	0.00	0.00	0.00
	12H	21.52	21.91	22.03	22.41	22.98	0.00	0.00	0.00	0.00	0.00
12H	4H	20.68	21.23	21.17	21.71	22.18	0.00	0.00	0.00	0.00	0.00
	6H	21.25	21.70	21.77	22.22	22.71	0.00	0.00	0.00	0.00	0.00
	8H	21.42	21.81	21.93	22.31	22.88	0.00	0.00	0.00	0.00	0.00