

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: P1055735

Luminaire Tested: S123R3DR-H1165D950-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055735  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H1165D950-X4F0-XX-UDD-FLL-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: -

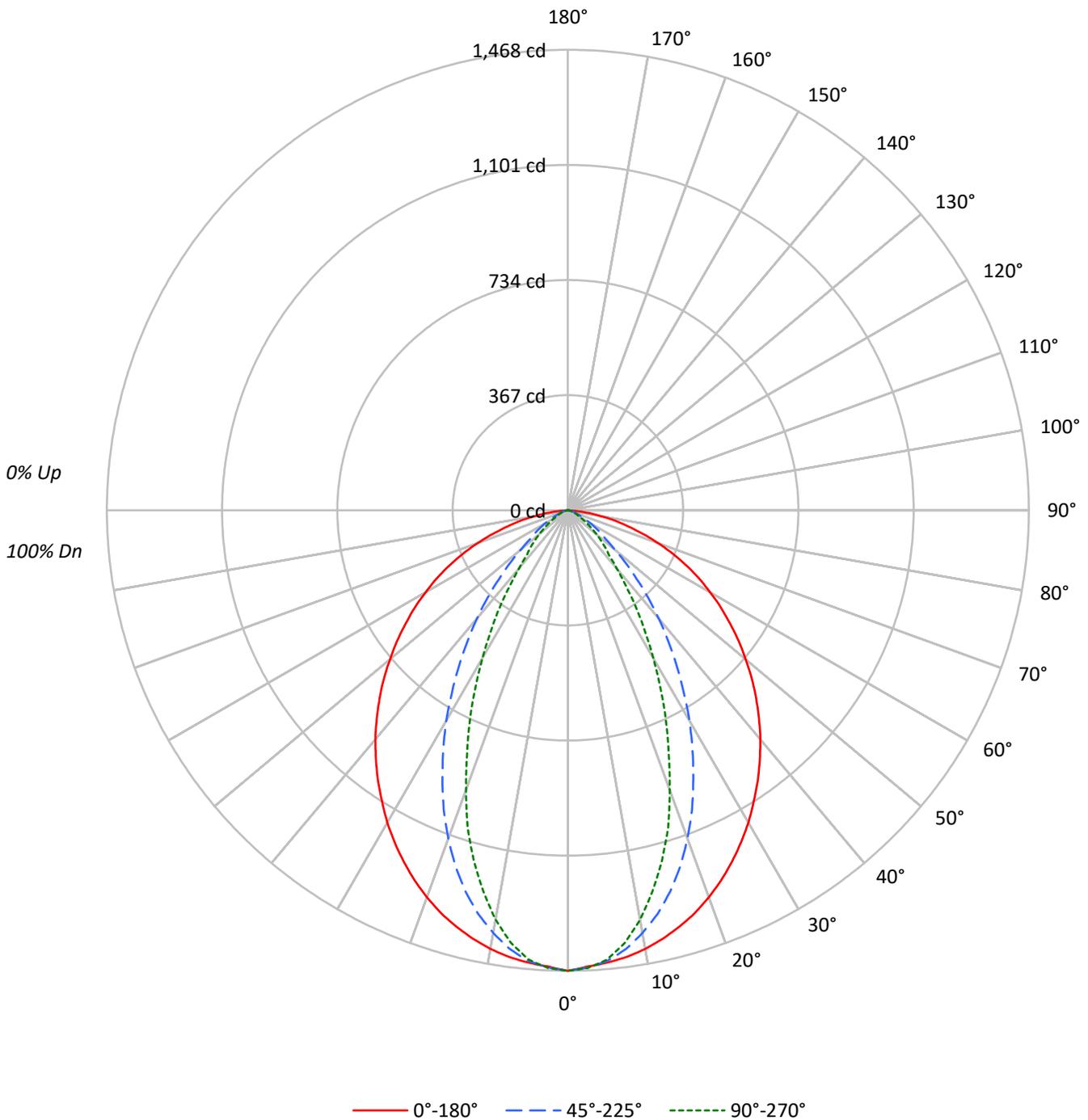
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2042.0 lumens  
Efficiency: N/A  
Efficacy: 55.8 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94  
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 (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	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79					79			
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70					70			
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62					62			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51					51			
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46					46			
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42					42			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39					39			
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36					36			

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

	0°	45°	90°
0°	17702	17702	17702
5°	17517	17451	17400
10°	17379	16749	16221
15°	17146	15704	14436
20°	16838	14285	12160
25°	16441	12571	9812
30°	16004	10772	7557
35°	15507	8890	5593
40°	15005	7074	3812
45°	14452	5292	2871
50°	13861	3680	2245
55°	13253	2691	1637
60°	12618	2013	1174
65°	11870	1349	913
70°	10744	980	737
75°	9270	713	582
80°	7443	583	486
85°	3846	581	387

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14452 cd/sqm



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CATALOG NUMBER: S123R3DR-H1165D950-X4F0-XX-UDD-FLL-S

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.7	6.6
10°-20°	353.3	17.3
20°-30°	443.9	21.7
30°-40°	413.4	20.2
40°-50°	316.5	15.5
50°-60°	210.4	10.3
60°-70°	113.4	5.6
70°-80°	46.5	2.3
80°-90°	8.9	0.4
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°	932.9	45.7
0°-40°	1346.4	65.9
0°-60°	1873.2	91.7
0°-90°	2042.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2042.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1468	1468	1468	1468	1468	
5°	1447	1463	1442	1436	1438	137
15°	1374	1351	1258	1184	1157	387
25°	1236	1152	945	788	738	569
35°	1054	898	604	427	380	659
45°	848	626	310	182	168	654
55°	630	365	128	89	78	565
65°	416	141	47	35	32	411
75°	199	33	15	14	12	213
85°	28	4	4	4	3	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1468.3	1468.3	1468.3	1468.3	1468.3
2.5°	1455.8	1473.9	1458.6	1460.0	1460.0
5°	1447.4	1462.8	1441.9	1436.3	1437.7
7.5°	1436.3	1446.1	1411.3	1393.2	1390.4
10°	1419.6	1422.4	1368.1	1336.1	1325.0
12.5°	1398.7	1389.0	1318.0	1265.1	1244.2
15°	1373.7	1351.4	1258.2	1184.4	1156.6
17.5°	1345.8	1308.3	1190.0	1093.9	1060.5
20°	1312.4	1259.6	1113.4	993.7	947.8
22.5°	1276.3	1208.1	1032.7	890.7	839.2
25°	1235.9	1152.4	945.0	787.7	737.6
27.5°	1194.1	1092.5	858.7	690.3	638.8
30°	1149.6	1031.3	773.8	595.7	542.8
32.5°	1100.9	964.5	686.1	508.0	455.1
35°	1053.6	897.7	604.0	427.3	380.0
37.5°	1003.5	830.9	524.7	356.3	303.4
40°	953.4	762.7	449.5	286.7	242.2
42.5°	900.5	694.5	378.6	228.3	193.5
45°	847.6	626.3	310.4	182.3	168.4
47.5°	794.7	558.1	250.5	157.3	143.4
50°	739.0	492.7	196.2	133.6	119.7
52.5°	686.1	427.3	153.1	109.9	97.4
55°	630.5	364.6	128.0	89.1	77.9
57.5°	579.0	300.6	105.8	69.6	61.2
60°	523.3	243.6	83.5	54.3	48.7
62.5°	470.4	190.7	64.0	43.1	39.0
65°	416.1	140.6	47.3	34.8	32.0
67.5°	361.9	101.6	36.2	27.8	26.4
70°	304.8	76.5	27.8	22.3	20.9
72.5°	250.5	54.3	20.9	18.1	16.7
75°	199.0	33.4	15.3	13.9	12.5
77.5°	153.1	19.5	11.1	11.1	9.7
80°	107.2	11.1	8.4	8.4	7.0
82.5°	65.4	7.0	5.6	5.6	5.6
85°	27.8	4.2	4.2	4.2	2.8
87.5°	4.2	1.4	1.4	1.4	1.4
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	19.80	21.15	20.16	21.47	21.78	8.37	9.73	8.74	10.04	10.36
	3H	21.55	22.76	21.93	23.09	23.45	9.03	10.24	9.41	10.57	10.93
	4H	22.25	23.37	22.65	23.72	24.11	9.23	10.35	9.63	10.70	11.09
	6H	22.76	23.80	23.18	24.17	24.56	9.35	10.38	9.76	10.75	11.15
	8H	22.90	23.88	23.33	24.27	24.68	9.39	10.37	9.82	10.76	11.16
	12H	22.95	23.89	23.39	24.27	24.70	9.40	10.33	9.83	10.72	11.15
4H	2H	19.61	20.73	20.01	21.08	21.46	8.93	10.05	9.33	10.40	10.78
	3H	21.40	22.32	21.81	22.72	23.12	9.73	10.65	10.14	11.05	11.45
	4H	22.09	22.92	22.53	23.33	23.78	9.98	10.81	10.42	11.22	11.67
	6H	22.66	23.37	23.12	23.82	24.28	10.18	10.89	10.64	11.34	11.80
	8H	22.84	23.50	23.31	23.95	24.42	10.24	10.90	10.70	11.34	11.82
	12H	22.92	23.51	23.41	23.99	24.47	10.27	10.85	10.75	11.34	11.81
8H	4H	21.97	22.63	22.44	23.08	23.55	10.30	10.96	10.76	11.41	11.88
	6H	22.52	23.06	23.02	23.56	24.04	10.55	11.09	11.05	11.58	12.06
	8H	22.70	23.18	23.22	23.70	24.19	10.63	11.12	11.16	11.63	12.13
	12H	22.80	23.23	23.32	23.73	24.30	10.72	11.14	11.23	11.64	12.21
12H	4H	21.93	22.51	22.41	22.99	23.47	10.34	10.93	10.83	11.41	11.88
	6H	22.46	22.95	22.99	23.47	23.96	10.59	11.08	11.11	11.59	12.08
	8H	22.66	23.09	23.17	23.58	24.15	10.72	11.15	11.23	11.64	12.21