

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: P1055728

Luminaire Tested: S123R3DR-H1165D935-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055728  
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-H1165D935-X4F0-XX-UDD-F-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

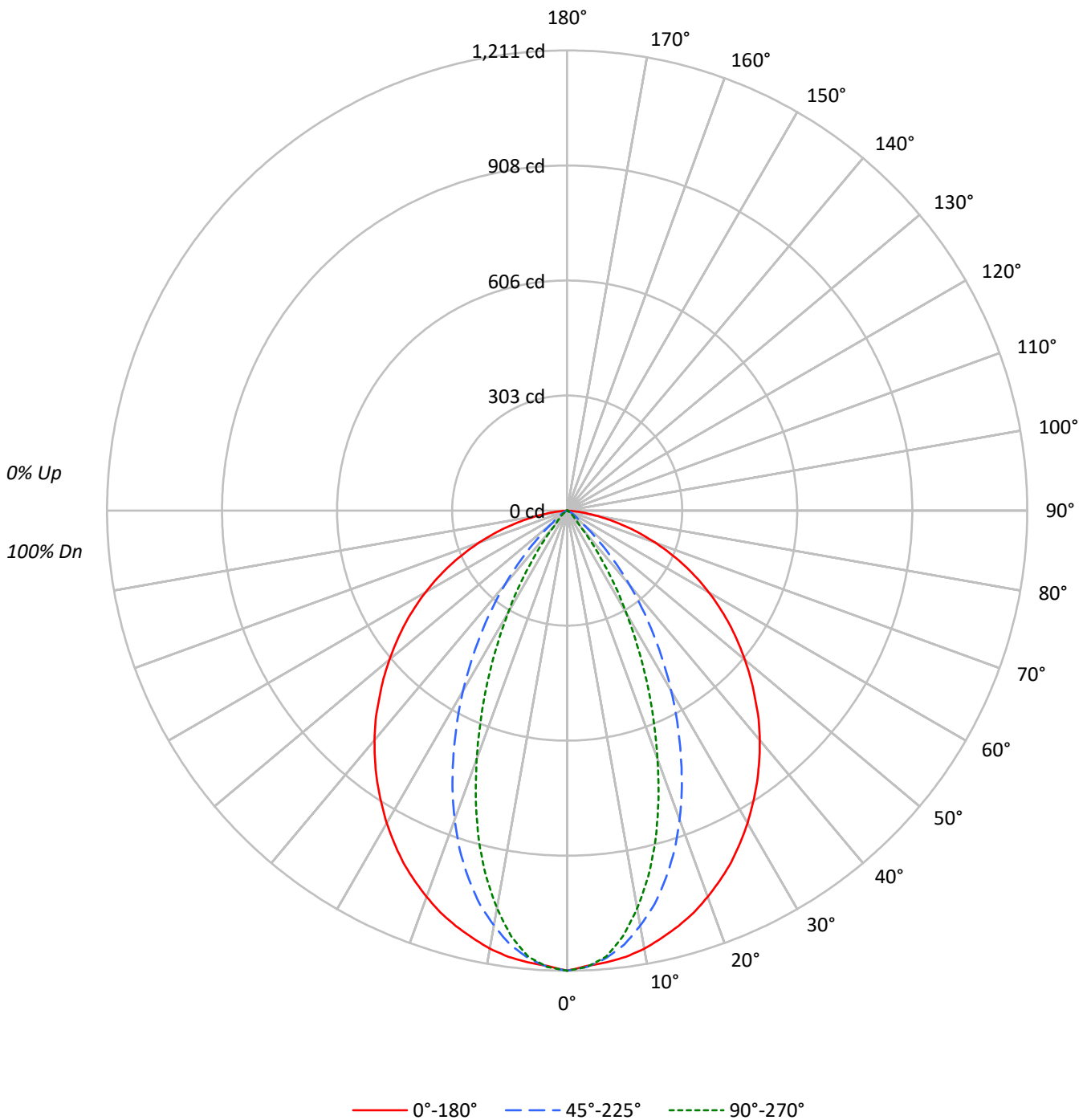
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1417.2 lumens  
Efficiency: N/A  
Efficacy: 38.7 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): 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

TEST NUMBER: P1055728

CATALOG NUMBER: S123R3DR-H1165D935-X4F0-XX-UDD-F-B

### Luminous Intensity Polar Plot





TEST NUMBER: P1055728

CATALOG NUMBER: S123R3DR-H1165D935-X4F0-XX-UDD-F-B

**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	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90					90			
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81					81			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73					73			
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65					65			
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59					59			
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56	54					54			
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50					50			
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46					46			
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43					43			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40					40			

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

	0°	45°	90°
0°	14599	14599	14599
5°	14442	14305	14259
10°	14332	13578	13010
15°	14126	12512	11210
20°	13876	11103	8929
25°	13585	9408	6584
30°	13220	7625	4320
35°	12830	5805	2367
40°	12415	4013	811
45°	11928	2334	471
50°	11451	919	283
55°	10958	580	132
60°	10388	364	60
65°	9674	180	37
70°	8679	88	46
75°	7374	61	61
80°	5492	90	0
85°	2089	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11928 cd/sqm



TEST NUMBER: P1055728

CATALOG NUMBER: S123R3DR-H1165D935-X4F0-XX-UDD-F-B

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.0	7.8
10°-20°	281.7	19.9
20°-30°	336.1	23.7
30°-40°	285.1	20.1
40°-50°	193.8	13.7
50°-60°	120.1	8.5
60°-70°	60.8	4.3
70°-80°	24.8	1.8
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°	728.8	51.4
0°-40°	1013.9	71.5
0°-60°	1327.7	93.7
0°-90°	1417.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1417.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1211	1211	1211	1211	1211	
5°	1193	1205	1182	1173	1178	113
15°	1132	1103	1002	923	898	319
25°	1021	926	707	546	495	470
35°	872	700	394	212	161	545
45°	700	458	137	34	28	540
55°	521	231	28	10	6	466
65°	339	56	6	1	1	335
75°	158	10	1	1	1	168
85°	15	0	0	1	0	27
90°	0	0	0	0	0	



TEST NUMBER: P1055728

CATALOG NUMBER: S123R3DR-H1165D935-X4F0-XX-UDD-F-B

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1210.9	1210.9	1210.9	1210.9	1210.9
2.5°	1199.6	1215.9	1202.1	1200.8	1202.1
5°	1193.3	1204.6	1182.0	1173.2	1178.2
7.5°	1184.5	1189.5	1151.8	1129.2	1129.2
10°	1170.7	1166.9	1109.1	1071.4	1062.7
12.5°	1151.8	1136.8	1061.4	1002.4	986.0
15°	1131.7	1102.8	1002.4	923.2	898.1
17.5°	1109.1	1065.2	938.3	835.3	798.9
20°	1081.5	1022.5	865.4	739.8	695.9
22.5°	1052.6	976.0	788.8	641.9	592.9
25°	1021.2	925.7	707.2	546.4	494.9
27.5°	986.0	873.0	626.8	454.7	398.2
30°	949.6	817.7	547.7	366.8	310.3
32.5°	910.7	759.9	468.5	286.4	233.6
35°	871.7	699.6	394.4	212.3	160.8
37.5°	830.3	639.4	322.8	147.0	101.7
40°	788.8	580.3	255.0	93.0	51.5
42.5°	746.1	518.8	193.4	46.5	35.2
45°	699.6	458.5	136.9	33.9	27.6
47.5°	655.7	400.7	90.4	27.6	21.4
50°	610.5	342.9	49.0	20.1	15.1
52.5°	565.2	287.6	35.2	15.1	10.0
55°	521.3	231.1	27.6	10.0	6.3
57.5°	476.1	182.1	21.4	6.3	3.8
60°	430.8	134.4	15.1	3.8	2.5
62.5°	385.6	93.0	10.0	2.5	1.3
65°	339.1	56.5	6.3	1.3	1.3
67.5°	291.4	38.9	3.8	1.3	1.3
70°	246.2	27.6	2.5	1.3	1.3
72.5°	201.0	17.6	1.3	1.3	0.0
75°	158.3	10.0	1.3	1.3	1.3
77.5°	116.8	3.8	1.3	1.3	0.0
80°	79.1	1.3	1.3	1.3	0.0
82.5°	44.0	0.0	1.3	1.3	0.0
85°	15.1	0.0	0.0	1.3	0.0
87.5°	0.0	0.0	0.0	1.3	0.0
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055728  
 CATALOG NUMBER: S123R3DR-H1165D935-X4F0-XX-UDD-F-B

**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	18.36	19.64	18.73	19.95	20.27	0.00	0.00	0.00	0.00	0.00
	3H	20.31	21.44	20.69	21.77	22.14	0.00	0.00	0.00	0.00	0.00
	4H	21.13	22.19	21.54	22.54	22.93	0.00	0.00	0.00	0.00	0.00
	6H	21.69	22.66	22.10	23.03	23.42	0.00	0.00	0.00	0.00	0.00
	8H	21.81	22.73	22.24	23.12	23.53	0.00	0.00	0.00	0.00	0.00
	12H	21.84	22.71	22.27	23.10	23.53	0.00	0.00	0.00	0.00	0.00
4H	2H	18.12	19.18	18.53	19.53	19.92	0.00	0.00	0.00	0.00	0.00
	3H	20.08	20.94	20.49	21.34	21.75	0.00	0.00	0.00	0.00	0.00
	4H	20.89	21.66	21.33	22.08	22.53	0.00	0.00	0.00	0.00	0.00
	6H	21.49	22.16	21.96	22.60	23.07	0.00	0.00	0.00	0.00	0.00
	8H	21.65	22.26	22.12	22.71	23.18	0.00	0.00	0.00	0.00	0.00
	12H	21.69	22.24	22.18	22.72	23.20	0.00	0.00	0.00	0.00	0.00
8H	4H	20.75	21.37	21.22	21.81	22.29	0.00	0.00	0.00	0.00	0.00
	6H	21.33	21.83	21.84	22.33	22.81	0.00	0.00	0.00	0.00	0.00
	8H	21.48	21.93	22.00	22.45	22.94	0.00	0.00	0.00	0.00	0.00
	12H	21.54	21.93	22.05	22.43	23.00	0.00	0.00	0.00	0.00	0.00
12H	4H	20.70	21.25	21.19	21.73	22.20	0.00	0.00	0.00	0.00	0.00
	6H	21.27	21.72	21.79	22.23	22.73	0.00	0.00	0.00	0.00	0.00
	8H	21.44	21.83	21.95	22.33	22.90	0.00	0.00	0.00	0.00	0.00