

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: P1055596

Luminaire Tested: S123R3DR-S1165D940-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055596  
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-S1165D940-X4F0-XX-UDD-F-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

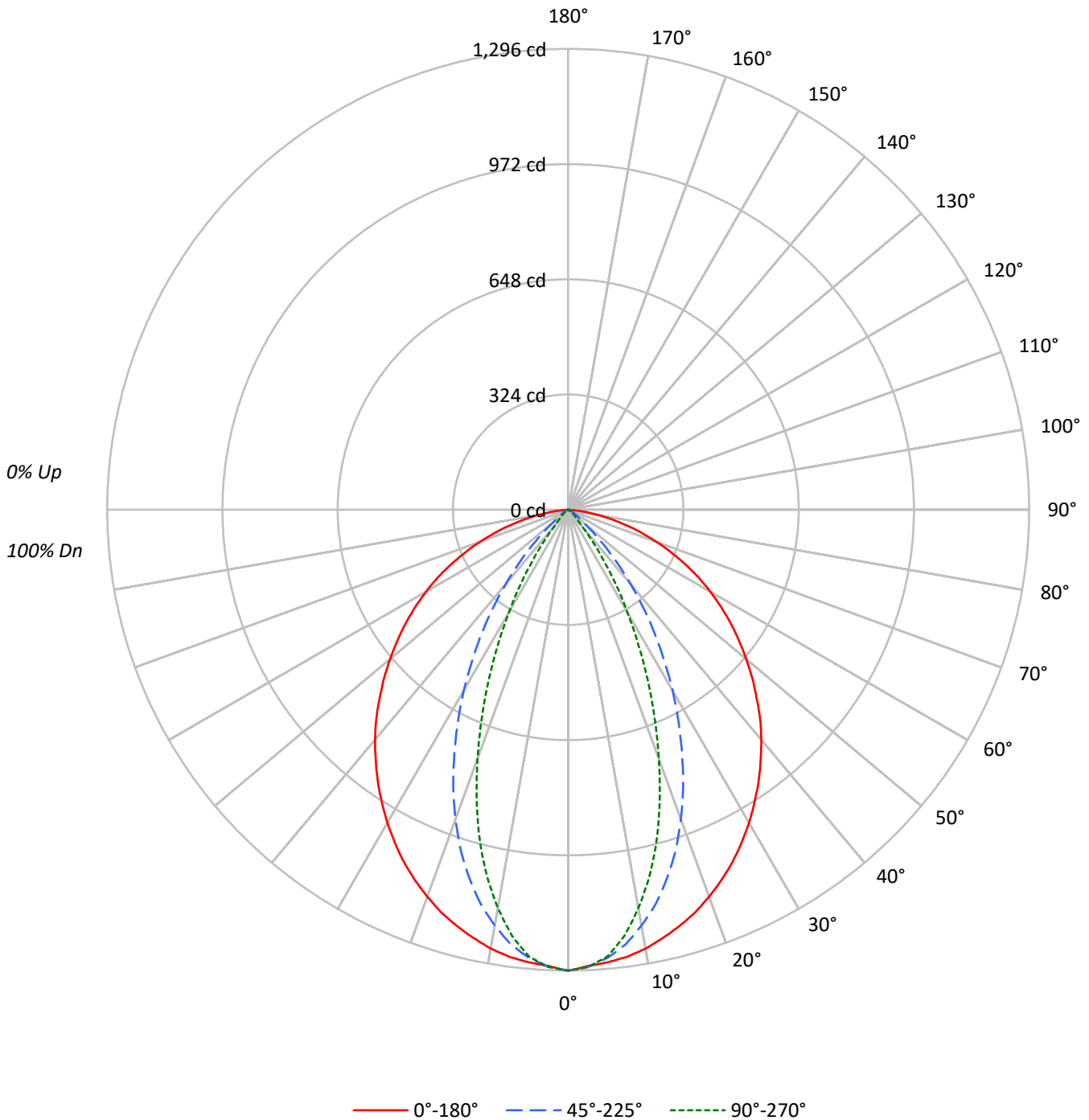
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1517.2 lumens  
Efficiency: N/A  
Efficacy: 36.2 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): 41.9  
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

TEST NUMBER: P1055596

CATALOG NUMBER: S123R3DR-S1165D940-X4F0-XX-UDD-F-B

### Luminous Intensity Polar Plot





TEST NUMBER: P1055596

CATALOG NUMBER: S123R3DR-S1165D940-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	58	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°	15630	15630	15630
5°	15462	15316	15267
10°	15345	14538	13928
15°	15124	13395	12002
20°	14856	11888	9558
25°	14544	10072	7049
30°	14154	8162	4625
35°	13736	6215	2533
40°	13293	4297	867
45°	12772	2500	505
50°	12259	983	302
55°	11731	622	141
60°	11123	388	65
65°	10358	191	37
70°	9292	95	46
75°	7891	61	61
80°	5881	90	0
85°	2227	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12772 cd/sqm



TEST NUMBER: P1055596

CATALOG NUMBER: S123R3DR-S1165D940-X4F0-XX-UDD-F-B

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.9	7.8
10°-20°	301.6	19.9
20°-30°	359.8	23.7
30°-40°	305.2	20.1
40°-50°	207.4	13.7
50°-60°	128.6	8.5
60°-70°	65.1	4.3
70°-80°	26.5	1.7
80°-90°	4.1	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°	780.3	51.4
0°-40°	1085.5	71.5
0°-60°	1421.5	93.7
0°-90°	1517.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1517.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1296	1296	1296	1296	1296	
5°	1278	1290	1266	1256	1262	121
15°	1212	1181	1073	988	962	342
25°	1093	991	757	585	530	503
35°	933	749	422	227	172	583
45°	749	491	147	36	30	579
55°	558	247	30	11	7	499
65°	363	60	7	1	1	359
75°	169	11	1	1	1	180
85°	16	0	0	1	0	29
90°	0	0	0	0	0	



TEST NUMBER: P1055596

CATALOG NUMBER: S123R3DR-S1165D940-X4F0-XX-UDD-F-B

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1296.4	1296.4	1296.4	1296.4	1296.4
2.5°	1284.3	1301.8	1287.0	1285.7	1287.0
5°	1277.6	1289.7	1265.5	1256.1	1261.5
7.5°	1268.2	1273.6	1233.2	1209.0	1209.0
10°	1253.4	1249.3	1187.5	1147.1	1137.7
12.5°	1233.2	1217.1	1136.4	1073.2	1055.7
15°	1211.7	1180.8	1073.2	988.5	961.6
17.5°	1187.5	1140.4	1004.6	894.3	855.3
20°	1157.9	1094.7	926.6	792.1	745.0
22.5°	1127.0	1044.9	844.6	687.2	634.8
25°	1093.3	991.1	757.1	585.0	529.9
27.5°	1055.7	934.7	671.1	486.8	426.3
30°	1016.7	875.5	586.3	392.7	332.2
32.5°	975.0	813.6	501.6	306.6	250.1
35°	933.3	749.1	422.3	227.3	172.1
37.5°	888.9	684.5	345.6	157.3	108.9
40°	844.6	621.3	273.0	99.5	55.1
42.5°	798.8	555.4	207.1	49.8	37.7
45°	749.1	490.9	146.6	36.3	29.6
47.5°	702.0	429.0	96.8	29.6	22.9
50°	653.6	367.1	52.4	21.5	16.1
52.5°	605.2	308.0	37.7	16.1	10.8
55°	558.1	247.4	29.6	10.8	6.7
57.5°	509.7	195.0	22.9	6.7	4.0
60°	461.3	143.9	16.1	4.0	2.7
62.5°	412.9	99.5	10.8	2.7	1.3
65°	363.1	60.5	6.7	1.3	1.3
67.5°	312.0	41.7	4.0	1.3	1.3
70°	263.6	29.6	2.7	1.3	1.3
72.5°	215.2	18.8	1.3	1.3	0.0
75°	169.4	10.8	1.3	1.3	1.3
77.5°	125.1	4.0	1.3	1.3	0.0
80°	84.7	1.3	1.3	1.3	0.0
82.5°	47.1	0.0	1.3	1.3	0.0
85°	16.1	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: P1055596

CATALOG NUMBER: S123R3DR-S1165D940-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	18.60	19.88	18.96	20.19	20.51	0.00	0.00	0.00	0.00	0.00
	3H	20.54	21.68	20.93	22.01	22.37	0.00	0.00	0.00	0.00	0.00
	4H	21.37	22.43	21.78	22.78	23.16	0.00	0.00	0.00	0.00	0.00
	6H	21.93	22.89	22.34	23.27	23.66	0.00	0.00	0.00	0.00	0.00
	8H	22.05	22.97	22.48	23.36	23.77	0.00	0.00	0.00	0.00	0.00
	12H	22.08	22.95	22.51	23.33	23.77	0.00	0.00	0.00	0.00	0.00
4H	2H	18.36	19.42	18.77	19.77	20.15	0.00	0.00	0.00	0.00	0.00
	3H	20.32	21.18	20.73	21.58	21.99	0.00	0.00	0.00	0.00	0.00
	4H	21.13	21.90	21.57	22.32	22.76	0.00	0.00	0.00	0.00	0.00
	6H	21.73	22.39	22.19	22.84	23.31	0.00	0.00	0.00	0.00	0.00
	8H	21.88	22.50	22.35	22.95	23.42	0.00	0.00	0.00	0.00	0.00
	12H	21.93	22.47	22.42	22.96	23.43	0.00	0.00	0.00	0.00	0.00
8H	4H	20.99	21.61	21.46	22.05	22.52	0.00	0.00	0.00	0.00	0.00
	6H	21.57	22.07	22.07	22.57	23.05	0.00	0.00	0.00	0.00	0.00
	8H	21.72	22.17	22.24	22.68	23.18	0.00	0.00	0.00	0.00	0.00
	12H	21.78	22.17	22.29	22.67	23.24	0.00	0.00	0.00	0.00	0.00
12H	4H	20.94	21.48	21.43	21.97	22.44	0.00	0.00	0.00	0.00	0.00
	6H	21.51	21.96	22.03	22.47	22.97	0.00	0.00	0.00	0.00	0.00
	8H	21.67	22.07	22.19	22.56	23.14	0.00	0.00	0.00	0.00	0.00