

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: P1055741

Luminaire Tested: S123R3DR-H340D835-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055741  
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-H340D835-X4F0-XX-UDD-F-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

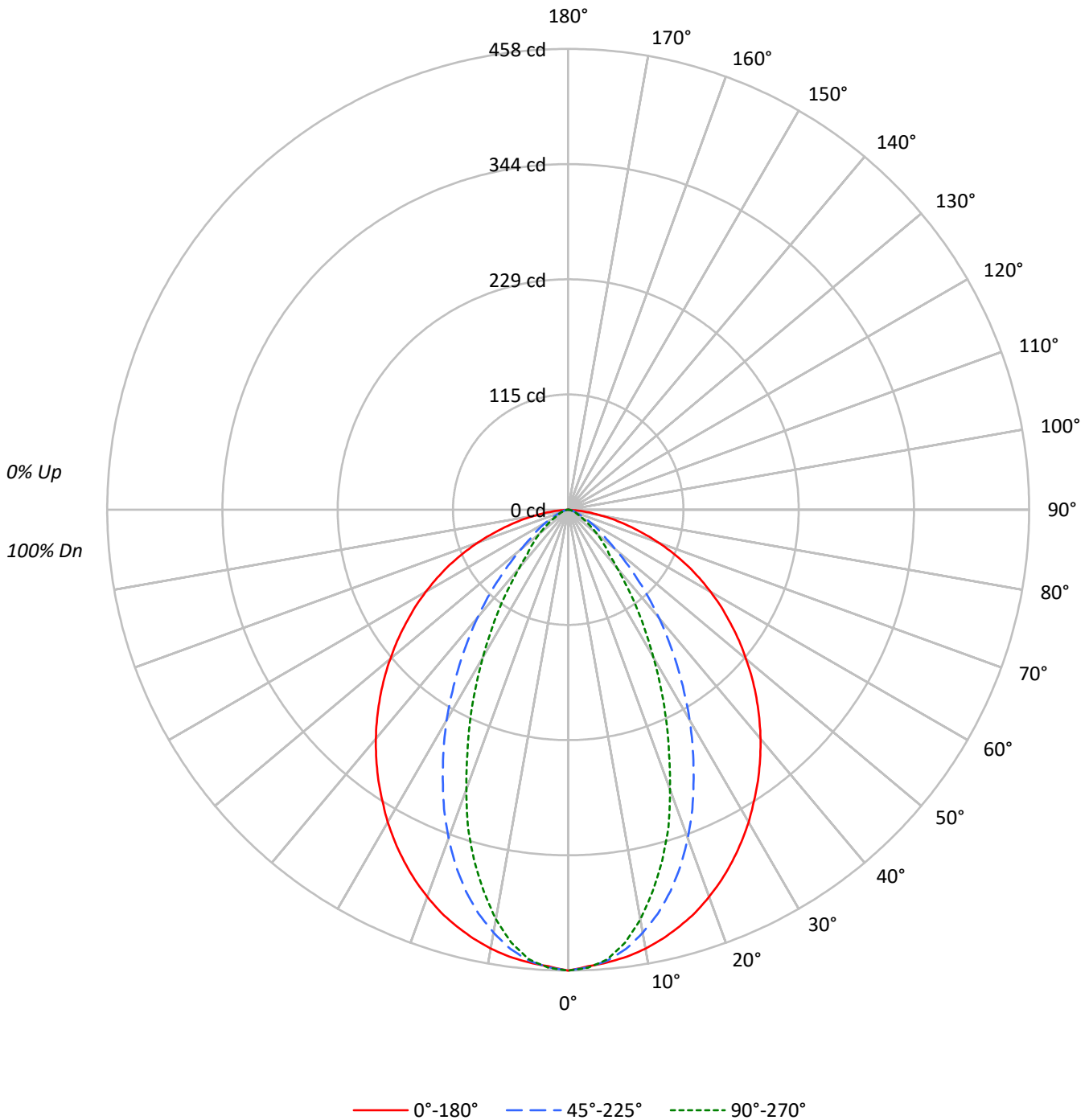
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 637.0 lumens  
Efficiency: N/A  
Efficacy: 54.4 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): 11.7  
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: P1055741

CATALOG NUMBER: S123R3DR-H340D835-X4F0-XX-UDD-F-S

### Luminous Intensity Polar Plot



TEST NUMBER: P1055741

CATALOG NUMBER: S123R3DR-H340D835-X4F0-XX-UDD-F-S

**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	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	61	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°	5523	5523	5523
5°	5465	5444	5428
10°	5422	5225	5061
15°	5348	4899	4503
20°	5253	4457	3794
25°	5130	3922	3061
30°	4992	3361	2357
35°	4838	2773	1744
40°	4681	2207	1188
45°	4508	1650	895
50°	4325	1148	700
55°	4135	839	511
60°	3938	629	367
65°	3703	422	285
70°	3352	307	229
75°	2893	224	182
80°	2319	181	153
85°	1203	180	124

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4508 cd/sqm



TEST NUMBER: P1055741

CATALOG NUMBER: S123R3DR-H340D835-X4F0-XX-UDD-F-S

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.3	6.6
10°-20°	110.2	17.3
20°-30°	138.5	21.7
30°-40°	129.0	20.2
40°-50°	98.7	15.5
50°-60°	65.6	10.3
60°-70°	35.4	5.6
70°-80°	14.5	2.3
80°-90°	2.8	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°	291.0	45.7
0°-40°	420.0	65.9
0°-60°	584.4	91.7
0°-90°	637.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	637.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	458	458	458	458	458	
5°	452	456	450	448	448	43
15°	428	422	392	370	361	121
25°	386	360	295	246	230	178
35°	329	280	188	133	118	205
45°	264	195	97	57	52	204
55°	197	114	40	28	24	176
65°	130	44	15	11	10	128
75°	62	10	5	4	4	67
85°	9	1	1	1	1	13
90°	0	0	0	0	0	



TEST NUMBER: P1055741

CATALOG NUMBER: S123R3DR-H340D835-X4F0-XX-UDD-F-S

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	458.1	458.1	458.1	458.1	458.1
2.5°	454.2	459.8	455.0	455.5	455.5
5°	451.6	456.3	449.8	448.1	448.5
7.5°	448.1	451.1	440.3	434.6	433.8
10°	442.9	443.7	426.8	416.8	413.4
12.5°	436.4	433.3	411.2	394.7	388.2
15°	428.5	421.6	392.5	369.5	360.8
17.5°	419.9	408.1	371.2	341.3	330.9
20°	409.4	392.9	347.4	310.0	295.7
22.5°	398.2	376.9	322.2	277.9	261.8
25°	385.6	359.5	294.8	245.8	230.1
27.5°	372.5	340.8	267.9	215.4	199.3
30°	358.6	321.7	241.4	185.8	169.3
32.5°	343.4	300.9	214.1	158.5	142.0
35°	328.7	280.1	188.4	133.3	118.5
37.5°	313.1	259.2	163.7	111.2	94.7
40°	297.4	237.9	140.2	89.4	75.5
42.5°	280.9	216.7	118.1	71.2	60.4
45°	264.4	195.4	96.8	56.9	52.5
47.5°	247.9	174.1	78.2	49.1	44.7
50°	230.6	153.7	61.2	41.7	37.3
52.5°	214.1	133.3	47.8	34.3	30.4
55°	196.7	113.8	39.9	27.8	24.3
57.5°	180.6	93.8	33.0	21.7	19.1
60°	163.3	76.0	26.1	16.9	15.2
62.5°	146.8	59.5	20.0	13.5	12.2
65°	129.8	43.9	14.8	10.9	10.0
67.5°	112.9	31.7	11.3	8.7	8.2
70°	95.1	23.9	8.7	6.9	6.5
72.5°	78.2	16.9	6.5	5.6	5.2
75°	62.1	10.4	4.8	4.3	3.9
77.5°	47.8	6.1	3.5	3.5	3.0
80°	33.4	3.5	2.6	2.6	2.2
82.5°	20.4	2.2	1.7	1.7	1.7
85°	8.7	1.3	1.3	1.3	0.9
87.5°	1.3	0.4	0.4	0.4	0.4
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P1055741

CATALOG NUMBER: S123R3DR-H340D835-X4F0-XX-UDD-F-S

**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	15.75	17.11	16.12	17.42	17.73	4.32	5.68	4.69	5.99	6.30
	3H	17.50	18.71	17.88	19.04	19.40	4.98	6.18	5.36	6.51	6.88
	4H	18.20	19.33	18.61	19.68	20.06	5.17	6.30	5.58	6.65	7.03
	6H	18.72	19.75	19.13	20.12	20.51	5.30	6.33	5.71	6.70	7.09
	8H	18.86	19.84	19.29	20.23	20.63	5.33	6.31	5.76	6.70	7.10
	12H	18.91	19.84	19.34	20.23	20.66	5.34	6.28	5.77	6.66	7.09
4H	2H	15.56	16.68	15.96	17.03	17.42	4.88	6.00	5.28	6.36	6.74
	3H	17.35	18.27	17.76	18.68	19.08	5.67	6.59	6.09	7.00	7.40
	4H	18.05	18.87	18.48	19.29	19.73	5.93	6.75	6.36	7.17	7.61
	6H	18.62	19.33	19.08	19.77	20.24	6.13	6.84	6.59	7.28	7.75
	8H	18.79	19.45	19.26	19.90	20.37	6.18	6.84	6.65	7.29	7.76
	12H	18.88	19.46	19.36	19.95	20.42	6.21	6.80	6.70	7.28	7.75
8H	4H	17.92	18.59	18.39	19.03	19.50	6.24	6.91	6.71	7.35	7.82
	6H	18.48	19.02	18.98	19.51	20.00	6.49	7.03	6.99	7.53	8.01
	8H	18.65	19.14	19.17	19.65	20.15	6.58	7.06	7.10	7.58	8.07
	12H	18.76	19.19	19.27	19.68	20.25	6.66	7.08	7.17	7.58	8.15
12H	4H	17.88	18.47	18.37	18.95	19.42	6.29	6.88	6.78	7.36	7.83
	6H	18.42	18.91	18.94	19.42	19.91	6.54	7.02	7.06	7.54	8.03
	8H	18.61	19.04	19.13	19.54	20.11	6.66	7.09	7.17	7.58	8.15