

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: P1055794

Luminaire Tested: S123R3DR-H775D835-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055794  
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-H775D835-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, 80 CRI LEDS  
Ballast/Driver: -

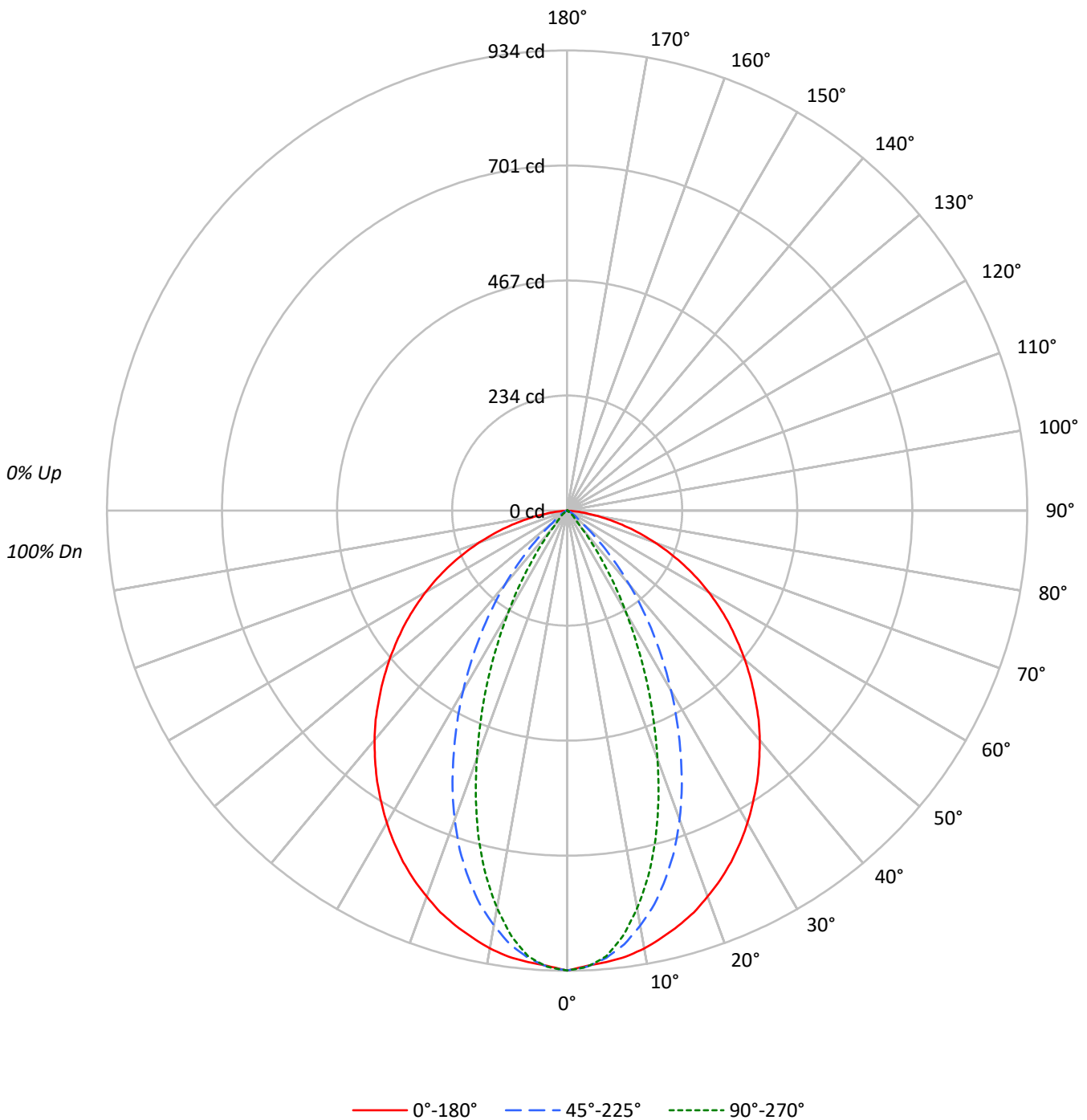
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1092.6 lumens  
Efficiency: N/A  
Efficacy: 45.9 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): 23.8  
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: P1055794

CATALOG NUMBER: S123R3DR-H775D835-X4F0-XX-UDD-F-B

### Luminous Intensity Polar Plot





TEST NUMBER: P1055794

CATALOG NUMBER: S123R3DR-H775D835-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	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	57	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°	11255	11255	11255
5°	11133	11028	10993
10°	11049	10468	10029
15°	10890	9646	8642
20°	10698	8560	6883
25°	10473	7253	5075
30°	10192	5878	3330
35°	9891	4476	1825
40°	9571	3094	625
45°	9197	1801	363
50°	8827	709	218
55°	8448	448	101
60°	8010	280	46
65°	7460	137	29
70°	6691	67	35
75°	5683	47	47
80°	4235	69	0
85°	1605	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9197 cd/sqm



TEST NUMBER: P1055794

CATALOG NUMBER: S123R3DR-H775D835-X4F0-XX-UDD-F-B

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.6	7.8
10°-20°	217.2	19.9
20°-30°	259.1	23.7
30°-40°	219.8	20.1
40°-50°	149.4	13.7
50°-60°	92.6	8.5
60°-70°	46.9	4.3
70°-80°	19.1	1.8
80°-90°	3.0	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°	561.9	51.4
0°-40°	781.7	71.5
0°-60°	1023.6	93.7
0°-90°	1092.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1092.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	934	934	934	934	934	
5°	920	929	911	904	908	87
15°	872	850	773	712	692	246
25°	787	714	545	421	382	362
35°	672	539	304	164	124	420
45°	539	354	106	26	21	417
55°	402	178	21	8	5	359
65°	262	44	5	1	1	258
75°	122	8	1	1	1	130
85°	12	0	0	1	0	21
90°	0	0	0	0	0	



TEST NUMBER: P1055794

CATALOG NUMBER: S123R3DR-H775D835-X4F0-XX-UDD-F-B

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	933.5	933.5	933.5	933.5	933.5
2.5°	924.8	937.4	926.7	925.8	926.7
5°	919.9	928.7	911.2	904.5	908.3
7.5°	913.2	917.0	888.0	870.6	870.6
10°	902.5	899.6	855.1	826.0	819.2
12.5°	888.0	876.4	818.3	772.8	760.2
15°	872.5	850.2	772.8	711.8	692.4
17.5°	855.1	821.2	723.4	644.0	615.9
20°	833.8	788.3	667.2	570.4	536.5
22.5°	811.5	752.4	608.1	494.8	457.1
25°	787.3	713.7	545.2	421.2	381.5
27.5°	760.2	673.0	483.2	350.5	307.0
30°	732.1	630.4	422.2	282.8	239.2
32.5°	702.1	585.9	361.2	220.8	180.1
35°	672.0	539.4	304.1	163.7	124.0
37.5°	640.1	492.9	248.9	113.3	78.4
40°	608.1	447.4	196.6	71.7	39.7
42.5°	575.2	399.9	149.1	35.8	27.1
45°	539.4	353.5	105.6	26.1	21.3
47.5°	505.5	308.9	69.7	21.3	16.5
50°	470.6	264.4	37.8	15.5	11.6
52.5°	435.8	221.8	27.1	11.6	7.7
55°	401.9	178.2	21.3	7.7	4.8
57.5°	367.0	140.4	16.5	4.8	2.9
60°	332.2	103.6	11.6	2.9	1.9
62.5°	297.3	71.7	7.7	1.9	1.0
65°	261.5	43.6	4.8	1.0	1.0
67.5°	224.7	30.0	2.9	1.0	1.0
70°	189.8	21.3	1.9	1.0	1.0
72.5°	154.9	13.6	1.0	1.0	0.0
75°	122.0	7.7	1.0	1.0	1.0
77.5°	90.1	2.9	1.0	1.0	0.0
80°	61.0	1.0	1.0	1.0	0.0
82.5°	33.9	0.0	1.0	1.0	0.0
85°	11.6	0.0	0.0	1.0	0.0
87.5°	0.0	0.0	0.0	1.0	0.0
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055794

CATALOG NUMBER: S123R3DR-H775D835-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	17.46	18.74	17.82	19.05	19.37	0.00	0.00	0.00	0.00	0.00
	3H	19.40	20.54	19.78	20.87	21.23	0.00	0.00	0.00	0.00	0.00
	4H	20.23	21.29	20.63	21.64	22.02	0.00	0.00	0.00	0.00	0.00
	6H	20.78	21.75	21.20	22.12	22.52	0.00	0.00	0.00	0.00	0.00
	8H	20.91	21.83	21.34	22.22	22.62	0.00	0.00	0.00	0.00	0.00
	12H	20.93	21.81	21.37	22.19	22.62	0.00	0.00	0.00	0.00	0.00
4H	2H	17.22	18.28	17.62	18.63	19.01	0.00	0.00	0.00	0.00	0.00
	3H	19.17	20.04	19.59	20.44	20.85	0.00	0.00	0.00	0.00	0.00
	4H	19.99	20.76	20.42	21.18	21.62	0.00	0.00	0.00	0.00	0.00
	6H	20.59	21.25	21.05	21.70	22.17	0.00	0.00	0.00	0.00	0.00
	8H	20.74	21.36	21.21	21.81	22.28	0.00	0.00	0.00	0.00	0.00
	12H	20.79	21.33	21.28	21.82	22.29	0.00	0.00	0.00	0.00	0.00
8H	4H	19.85	20.46	20.32	20.91	21.38	0.00	0.00	0.00	0.00	0.00
	6H	20.43	20.93	20.93	21.43	21.91	0.00	0.00	0.00	0.00	0.00
	8H	20.58	21.03	21.10	21.54	22.04	0.00	0.00	0.00	0.00	0.00
	12H	20.63	21.03	21.15	21.53	22.10	0.00	0.00	0.00	0.00	0.00
12H	4H	19.80	20.34	20.28	20.83	21.30	0.00	0.00	0.00	0.00	0.00
	6H	20.36	20.81	20.89	21.33	21.82	0.00	0.00	0.00	0.00	0.00
	8H	20.53	20.93	21.05	21.42	22.00	0.00	0.00	0.00	0.00	0.00