

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: P1055791

Luminaire Tested: S123R3DR-H775D830-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055791
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-H775D830-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

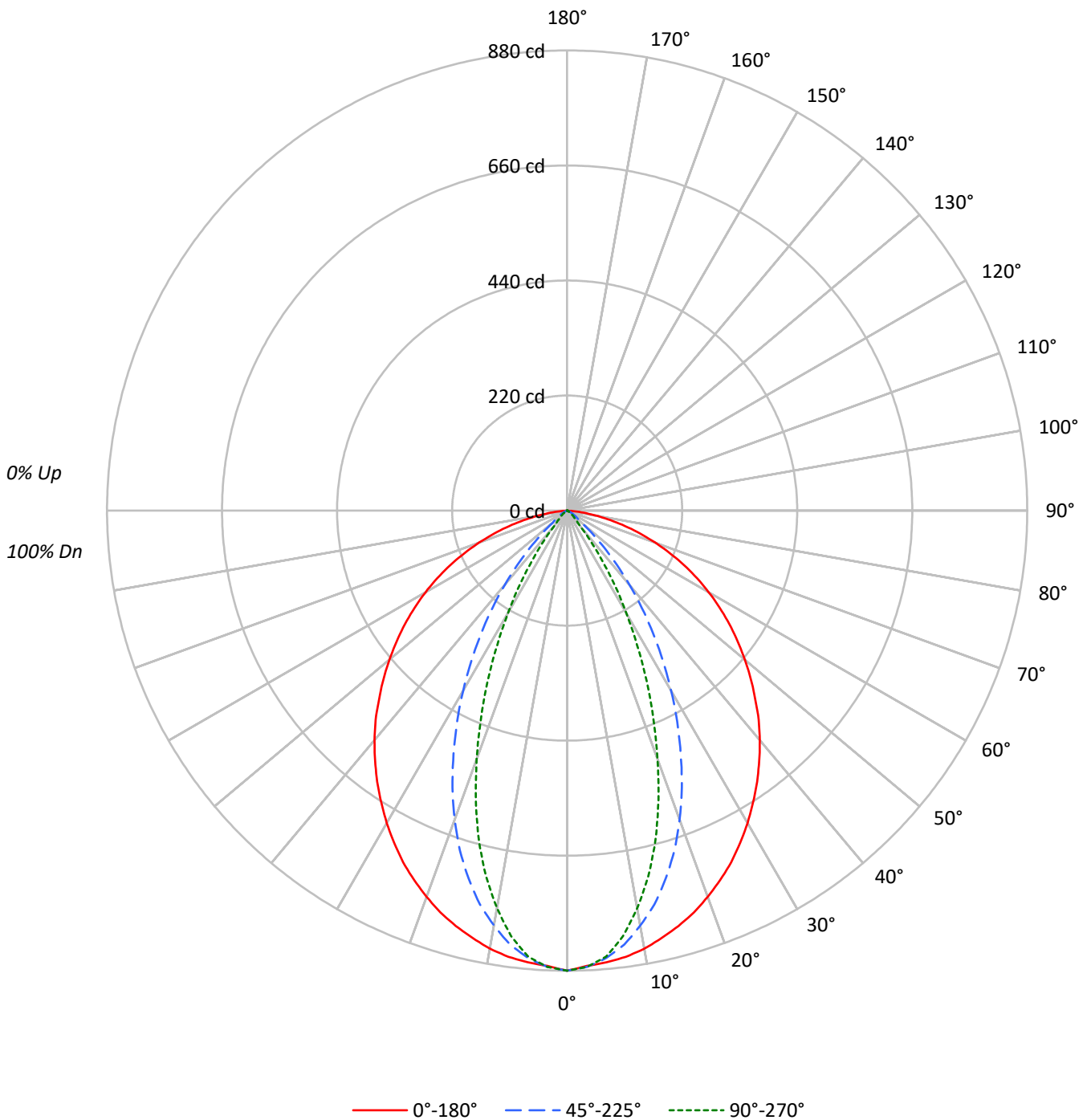
Lumens per Lamp: N/A
Luminaire Lumens: 1029.8 lumens
Efficiency: N/A
Efficacy: 43.3 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
Input Voltage (V): 120
Input Current (A_{in}): 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: P1055791

CATALOG NUMBER: S123R3DR-H775D830-X4F0-XX-UDD-F-B

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	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	58	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°	10608	10608	10608
5°	10494	10395	10361
10°	10415	9866	9454
15°	10265	9092	8146
20°	10083	8069	6488
25°	9871	6836	4784
30°	9606	5539	3138
35°	9322	4218	1719
40°	9021	2916	589
45°	8668	1697	343
50°	8320	668	206
55°	7962	422	97
60°	7550	265	43
65°	7029	131	26
70°	6306	63	32
75°	5357	42	42
80°	3992	62	0
85°	1522	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8668 cd/sqm



TEST NUMBER: P1055791

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.7	7.8
10°-20°	204.7	19.9
20°-30°	244.2	23.7
30°-40°	207.1	20.1
40°-50°	140.8	13.7
50°-60°	87.3	8.5
60°-70°	44.2	4.3
70°-80°	18.0	1.7
80°-90°	2.8	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°	529.6	51.4
0°-40°	736.7	71.5
0°-60°	964.8	93.7
0°-90°	1029.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1029.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	880	880	880	880	880	
5°	867	875	859	852	856	82
15°	822	801	728	671	653	232
25°	742	673	514	397	360	341
35°	633	508	287	154	117	396
45°	508	333	100	25	20	393
55°	379	168	20	7	5	338
65°	246	41	5	1	1	243
75°	115	7	1	1	1	122
85°	11	0	0	1	0	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	879.9	879.9	879.9	879.9	879.9
2.5°	871.7	883.5	873.5	872.6	873.5
5°	867.1	875.3	858.9	852.5	856.1
7.5°	860.7	864.4	837.0	820.5	820.5
10°	850.7	847.9	805.9	778.6	772.2
12.5°	837.0	826.0	771.3	728.4	716.5
15°	822.4	801.4	728.4	670.9	652.6
17.5°	805.9	774.0	681.8	607.0	580.5
20°	785.9	743.0	628.9	537.6	505.7
22.5°	764.9	709.2	573.2	466.4	430.8
25°	742.0	672.7	513.9	397.0	359.6
27.5°	716.5	634.3	455.5	330.4	289.3
30°	690.0	594.2	397.9	266.5	225.4
32.5°	661.7	552.2	340.4	208.1	169.8
35°	633.4	508.4	286.6	154.3	116.8
37.5°	603.3	464.6	234.6	106.8	73.9
40°	573.2	421.7	185.3	67.5	37.4
42.5°	542.2	377.0	140.6	33.8	25.6
45°	508.4	333.1	99.5	24.6	20.1
47.5°	476.4	291.2	65.7	20.1	15.5
50°	443.6	249.2	35.6	14.6	11.0
52.5°	410.7	209.0	25.6	11.0	7.3
55°	378.8	167.9	20.1	7.3	4.6
57.5°	345.9	132.3	15.5	4.6	2.7
60°	313.1	97.7	11.0	2.7	1.8
62.5°	280.2	67.5	7.3	1.8	0.9
65°	246.4	41.1	4.6	0.9	0.9
67.5°	211.8	28.3	2.7	0.9	0.9
70°	178.9	20.1	1.8	0.9	0.9
72.5°	146.0	12.8	0.9	0.9	0.0
75°	115.0	7.3	0.9	0.9	0.9
77.5°	84.9	2.7	0.9	0.9	0.0
80°	57.5	0.9	0.9	0.9	0.0
82.5°	31.9	0.0	0.9	0.9	0.0
85°	11.0	0.0	0.0	0.9	0.0
87.5°	0.0	0.0	0.0	0.9	0.0
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	17.25	18.53	17.62	18.84	19.16	0.00	0.00	0.00	0.00	0.00
	3H	19.20	20.33	19.58	20.66	21.03	0.00	0.00	0.00	0.00	0.00
	4H	20.02	21.08	20.43	21.43	21.82	0.00	0.00	0.00	0.00	0.00
	6H	20.58	21.55	20.99	21.92	22.31	0.00	0.00	0.00	0.00	0.00
	8H	20.70	21.62	21.14	22.01	22.42	0.00	0.00	0.00	0.00	0.00
	12H	20.73	21.60	21.16	21.99	22.42	0.00	0.00	0.00	0.00	0.00
4H	2H	17.01	18.07	17.42	18.42	18.81	0.00	0.00	0.00	0.00	0.00
	3H	18.97	19.83	19.38	20.24	20.64	0.00	0.00	0.00	0.00	0.00
	4H	19.78	20.55	20.22	20.97	21.42	0.00	0.00	0.00	0.00	0.00
	6H	20.38	21.05	20.85	21.49	21.96	0.00	0.00	0.00	0.00	0.00
	8H	20.54	21.15	21.01	21.60	22.07	0.00	0.00	0.00	0.00	0.00
	12H	20.58	21.13	21.07	21.61	22.09	0.00	0.00	0.00	0.00	0.00
8H	4H	19.64	20.26	20.11	20.71	21.18	0.00	0.00	0.00	0.00	0.00
	6H	20.22	20.72	20.73	21.22	21.70	0.00	0.00	0.00	0.00	0.00
	8H	20.37	20.82	20.89	21.34	21.83	0.00	0.00	0.00	0.00	0.00
	12H	20.43	20.82	20.95	21.32	21.89	0.00	0.00	0.00	0.00	0.00
12H	4H	19.59	20.14	20.08	20.62	21.09	0.00	0.00	0.00	0.00	0.00
	6H	20.16	20.61	20.68	21.13	21.62	0.00	0.00	0.00	0.00	0.00
	8H	20.33	20.72	20.84	21.22	21.79	0.00	0.00	0.00	0.00	0.00