

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: P1055739

Luminaire Tested: S123R3DR-H340D830-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055739
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H340D830-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

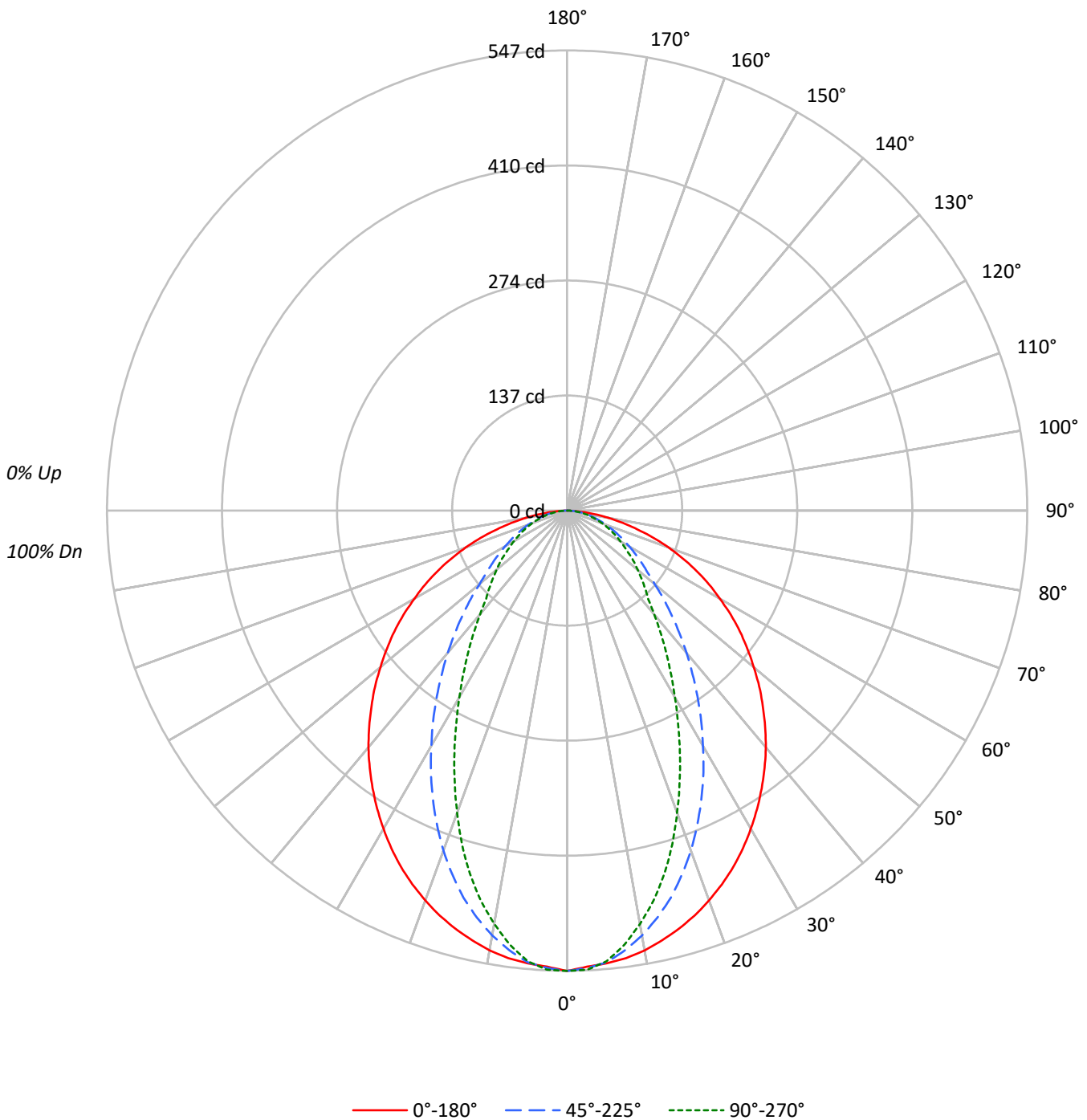
Lumens per Lamp: N/A
Luminaire Lumens: 959.6 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (A_{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: P1055739

CATALOG NUMBER: S123R3DR-H340D830-X4F0-XX-UDD-F-W

Luminous Intensity Polar Plot





TEST NUMBER: P1055739

CATALOG NUMBER: S123R3DR-H340D830-X4F0-XX-UDD-F-W

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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6597	6597	6597
5°	6538	6523	6507
10°	6498	6278	6108
15°	6421	5946	5578
20°	6327	5518	4904
25°	6218	5024	4220
30°	6080	4495	3567
35°	5933	3975	3011
40°	5784	3472	2531
45°	5610	2994	2234
50°	5434	2549	2050
55°	5274	2270	1892
60°	5052	2052	1767
65°	4844	1880	1657
70°	4516	1731	1558
75°	4043	1602	1467
80°	3465	1479	1361
85°	2435	1356	1300

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5610 cd/sqm



TEST NUMBER: P1055739

CATALOG NUMBER: S123R3DR-H340D830-X4F0-XX-UDD-F-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.7	5.3
10°-20°	134.2	14.0
20°-30°	176.8	18.4
30°-40°	179.4	18.7
40°-50°	156.0	16.3
50°-60°	122.2	12.7
60°-70°	83.0	8.7
70°-80°	45.0	4.7
80°-90°	12.4	1.3
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°	361.7	37.7
0°-40°	541.1	56.4
0°-60°	819.2	85.4
0°-90°	959.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	959.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	547	547	547	547	547	
5°	540	547	539	534	538	51
15°	514	507	476	453	447	145
25°	467	439	378	331	317	215
35°	403	355	270	218	205	252
45°	329	264	176	136	131	254
55°	251	174	108	92	90	224
65°	170	94	66	59	58	168
75°	87	43	34	32	32	93
85°	18	11	10	9	9	22
90°	0	0	0	0	0	

TEST NUMBER: P1055739

CATALOG NUMBER: S123R3DR-H340D830-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	547.2	547.2	547.2	547.2	547.2
2.5°	542.7	549.6	544.3	544.7	546.3
5°	540.2	546.8	539.0	534.1	537.7
7.5°	536.5	541.4	527.1	519.3	520.6
10°	530.8	532.4	512.8	500.5	498.9
12.5°	523.0	520.1	495.6	477.6	474.7
15°	514.4	507.1	476.4	453.0	446.9
17.5°	504.6	492.3	453.9	425.2	415.8
20°	493.1	476.0	430.1	393.7	382.2
22.5°	480.9	458.8	404.3	361.4	349.5
25°	467.4	439.1	377.7	330.7	317.2
27.5°	452.6	419.5	350.7	300.4	285.2
30°	436.7	399.0	322.9	270.9	256.2
32.5°	420.3	377.3	296.3	243.5	229.2
35°	403.1	355.2	270.1	218.5	204.6
37.5°	385.5	332.7	244.7	194.8	181.7
40°	367.5	309.8	220.6	172.7	160.8
42.5°	348.3	286.9	197.3	151.8	142.8
45°	329.0	264.0	175.6	135.5	131.0
47.5°	309.8	240.6	155.1	124.0	119.9
50°	289.7	218.1	135.9	113.4	109.3
52.5°	270.1	196.0	119.9	103.1	100.3
55°	250.9	174.3	108.0	92.1	90.0
57.5°	230.8	153.1	96.2	83.5	81.0
60°	209.5	132.6	85.1	74.5	73.3
62.5°	190.3	113.4	75.3	66.7	65.5
65°	169.8	94.1	65.9	58.9	58.1
67.5°	149.0	78.2	57.3	51.6	51.2
70°	128.1	65.9	49.1	44.6	44.2
72.5°	107.6	54.4	41.3	38.5	37.7
75°	86.8	43.4	34.4	31.9	31.5
77.5°	67.9	33.6	27.4	25.8	25.4
80°	49.9	25.0	21.3	20.1	19.6
82.5°	32.7	17.2	15.1	14.3	14.3
85°	17.6	10.6	9.8	9.0	9.4
87.5°	6.1	4.5	4.5	4.1	4.5
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055739
 CATALOG NUMBER: S123R3DR-H340D830-X4F0-XX-UDD-F-W

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	17.11	18.61	17.48	18.92	19.23	12.26	13.75	12.63	14.07	14.38
	3H	19.00	20.34	19.38	20.67	21.03	13.89	15.23	14.27	15.56	15.92
	4H	19.76	21.01	20.16	21.36	21.74	14.53	15.78	14.93	16.13	16.51
	6H	20.32	21.48	20.73	21.85	22.24	15.02	16.18	15.43	16.54	16.94
	8H	20.49	21.60	20.92	21.99	22.39	15.19	16.29	15.61	16.68	17.08
	12H	20.59	21.65	21.02	22.03	22.46	15.31	16.37	15.74	16.75	17.18
4H	2H	17.16	18.42	17.56	18.77	19.14	12.99	14.25	13.39	14.60	14.97
	3H	19.18	20.22	19.59	20.62	21.02	14.81	15.86	15.22	16.26	16.66
	4H	19.99	20.93	20.43	21.35	21.79	15.56	16.50	15.99	16.91	17.35
	6H	20.68	21.49	21.13	21.94	22.40	16.17	16.98	16.63	17.43	17.89
	8H	20.91	21.67	21.37	22.12	22.58	16.38	17.15	16.85	17.59	18.06
	12H	21.06	21.74	21.54	22.22	22.69	16.55	17.23	17.03	17.71	18.18
8H	4H	20.02	20.78	20.48	21.23	21.69	15.94	16.70	16.41	17.15	17.62
	6H	20.75	21.38	21.25	21.87	22.35	16.67	17.30	17.17	17.79	18.27
	8H	21.02	21.58	21.53	22.09	22.58	16.96	17.52	17.47	18.03	18.52
	12H	21.23	21.73	21.74	22.22	22.78	17.20	17.70	17.71	18.19	18.76
12H	4H	20.00	20.69	20.49	21.17	21.64	16.00	16.68	16.48	17.16	17.63
	6H	20.73	21.30	21.25	21.81	22.30	16.75	17.32	17.27	17.83	18.32
	8H	21.04	21.54	21.55	22.03	22.59	17.10	17.60	17.61	18.09	18.66