

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: P1055742

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055742
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-H340D835-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

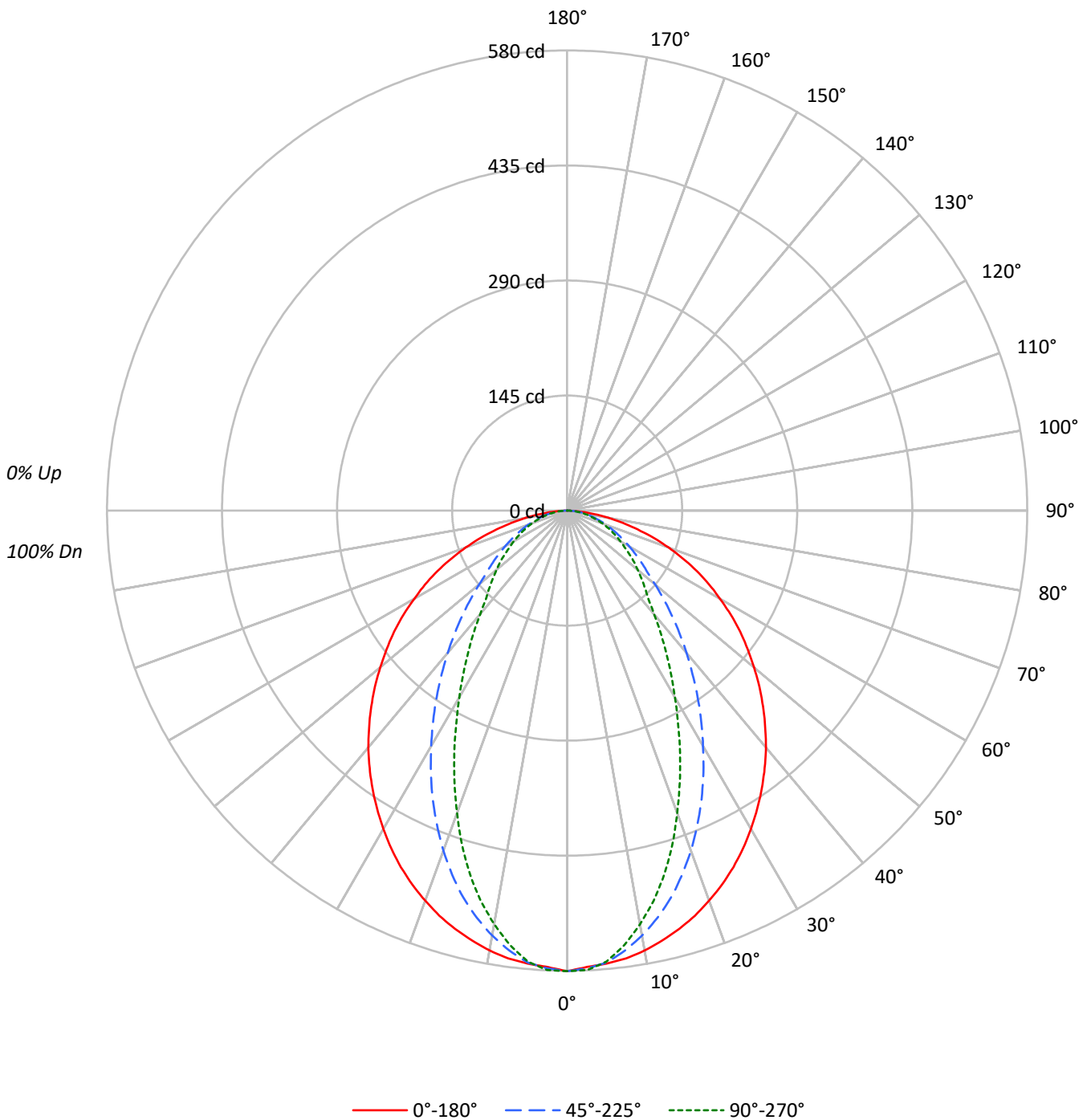
Lumens per Lamp: N/A
Luminaire Lumens: 1018.1 lumens
Efficiency: N/A
Efficacy: 87.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (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: P1055742

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

Luminous Intensity Polar Plot





TEST NUMBER: P1055742

CATALOG NUMBER: S123R3DR-H340D835-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	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	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°	6999	6999	6999
5°	6936	6920	6904
10°	6894	6660	6480
15°	6813	6308	5918
20°	6713	5854	5203
25°	6596	5332	4476
30°	6450	4770	3784
35°	6295	4218	3195
40°	6136	3683	2685
45°	5952	3176	2368
50°	5766	2705	2174
55°	5595	2409	2007
60°	5360	2177	1874
65°	5141	1994	1760
70°	4791	1837	1653
75°	4286	1700	1556
80°	3680	1569	1444
85°	2587	1439	1383

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5952 cd/sqm



TEST NUMBER: P1055742

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.8	5.3
10°-20°	142.4	14.0
20°-30°	187.5	18.4
30°-40°	190.4	18.7
40°-50°	165.5	16.3
50°-60°	129.6	12.7
60°-70°	88.1	8.7
70°-80°	47.7	4.7
80°-90°	13.1	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°	383.7	37.7
0°-40°	574.1	56.4
0°-60°	869.2	85.4
0°-90°	1018.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1018.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	580	580	580	580	580	
5°	573	580	572	567	570	54
15°	546	538	505	481	474	154
25°	496	466	401	351	336	228
35°	428	377	287	232	217	268
45°	349	280	186	144	139	269
55°	266	185	115	98	96	238
65°	180	100	70	62	62	178
75°	92	46	36	34	33	98
85°	19	11	10	10	10	23
90°	0	0	0	0	0	



TEST NUMBER: P1055742

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	580.5	580.5	580.5	580.5	580.5
2.5°	575.7	583.1	577.5	577.9	579.6
5°	573.1	580.1	571.8	566.6	570.5
7.5°	569.2	574.4	559.2	551.0	552.3
10°	563.1	564.9	544.0	531.0	529.3
12.5°	554.9	551.9	525.8	506.7	503.7
15°	545.8	538.0	505.4	480.7	474.1
17.5°	535.4	522.3	481.5	451.1	441.1
20°	523.2	505.0	456.3	417.7	405.5
22.5°	510.2	486.7	429.0	383.4	370.8
25°	495.8	465.9	400.8	350.8	336.5
27.5°	480.2	445.0	372.1	318.7	302.6
30°	463.3	423.3	342.6	287.4	271.8
32.5°	445.9	400.3	314.4	258.3	243.1
35°	427.7	376.9	286.6	231.9	217.1
37.5°	409.0	353.0	259.6	206.7	192.8
40°	389.9	328.7	234.0	183.2	170.6
42.5°	369.5	304.4	209.3	161.1	151.5
45°	349.1	280.1	186.3	143.7	138.9
47.5°	328.7	255.3	164.6	131.6	127.2
50°	307.4	231.4	144.2	120.3	115.9
52.5°	286.6	208.0	127.2	109.4	106.4
55°	266.2	185.0	114.6	97.7	95.5
57.5°	244.9	162.4	102.0	88.6	86.0
60°	222.3	140.7	90.3	79.0	77.7
62.5°	201.9	120.3	79.9	70.8	69.5
65°	180.2	99.9	69.9	62.5	61.7
67.5°	158.0	82.9	60.8	54.7	54.3
70°	135.9	69.9	52.1	47.3	46.9
72.5°	114.2	57.7	43.9	40.8	39.9
75°	92.0	46.0	36.5	33.9	33.4
77.5°	72.1	35.6	29.1	27.4	26.9
80°	53.0	26.5	22.6	21.3	20.8
82.5°	34.7	18.2	16.1	15.2	15.2
85°	18.7	11.3	10.4	9.6	10.0
87.5°	6.5	4.8	4.8	4.3	4.8
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055742
 CATALOG NUMBER: S123R3DR-H340D835-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	17.32	18.81	17.68	19.12	19.44	12.47	13.96	12.83	14.27	14.59
	3H	19.20	20.54	19.58	20.87	21.23	14.10	15.43	14.47	15.76	16.13
	4H	19.96	21.22	20.36	21.57	21.94	14.73	15.99	15.13	16.34	16.72
	6H	20.53	21.69	20.94	22.05	22.44	15.22	16.38	15.63	16.75	17.14
	8H	20.70	21.80	21.13	22.19	22.59	15.39	16.50	15.82	16.89	17.29
	12H	20.80	21.85	21.23	22.23	22.66	15.52	16.57	15.95	16.96	17.38
4H	2H	17.36	18.62	17.77	18.97	19.35	13.20	14.45	13.60	14.80	15.18
	3H	19.38	20.42	19.79	20.82	21.23	15.02	16.06	15.43	16.46	16.86
	4H	20.20	21.14	20.63	21.55	21.99	15.76	16.70	16.20	17.12	17.56
	6H	20.88	21.70	21.34	22.14	22.60	16.37	17.19	16.83	17.63	18.09
	8H	21.11	21.88	21.58	22.32	22.79	16.59	17.35	17.05	17.80	18.26
	12H	21.26	21.95	21.75	22.42	22.90	16.76	17.44	17.24	17.92	18.39
8H	4H	20.22	20.99	20.69	21.43	21.90	16.15	16.91	16.61	17.36	17.82
	6H	20.95	21.58	21.45	22.07	22.55	16.88	17.51	17.37	18.00	18.48
	8H	21.22	21.79	21.74	22.30	22.79	17.16	17.73	17.68	18.24	18.73
	12H	21.43	21.93	21.94	22.42	22.99	17.41	17.91	17.92	18.40	18.97
12H	4H	20.21	20.89	20.69	21.37	21.84	16.20	16.88	16.68	17.36	17.83
	6H	20.94	21.50	21.45	22.01	22.50	16.96	17.52	17.47	18.04	18.52
	8H	21.24	21.74	21.75	22.23	22.80	17.31	17.81	17.82	18.30	18.86