

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: P1055760

Luminaire Tested: S123R3DR-H340D940-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055760
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-H340D940-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

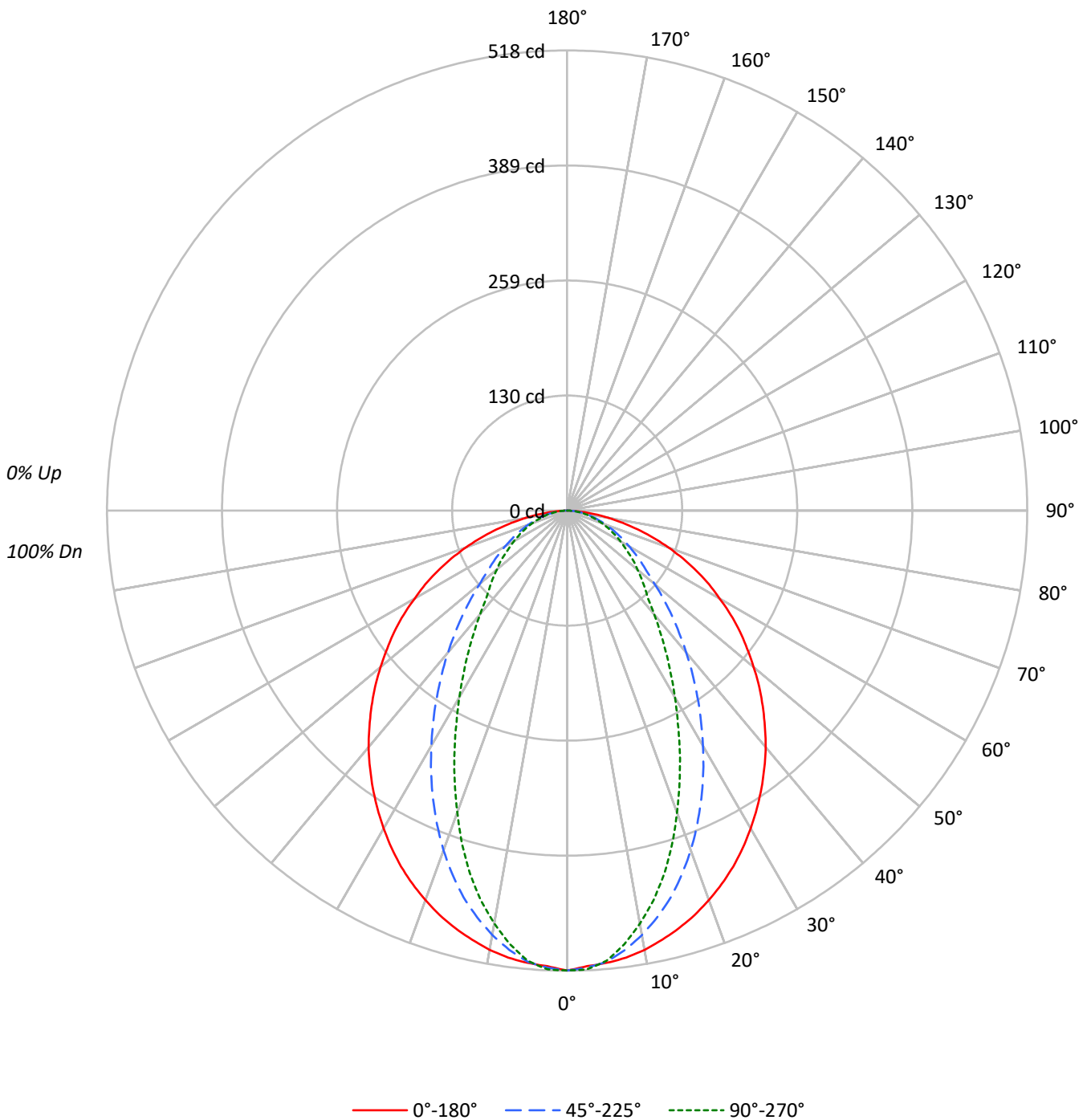
Lumens per Lamp: N/A
Luminaire Lumens: 907.9 lumens
Efficiency: N/A
Efficacy: 77.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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: P1055760

CATALOG NUMBER: S123R3DR-H340D940-X4F0-XX-UDD-F-W

Luminous Intensity Polar Plot





TEST NUMBER: P1055760

CATALOG NUMBER: S123R3DR-H340D940-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°	6242	6242	6242
5°	6186	6171	6157
10°	6148	5939	5778
15°	6075	5626	5277
20°	5985	5221	4639
25°	5882	4754	3992
30°	5751	4253	3375
35°	5614	3760	2849
40°	5472	3285	2395
45°	5308	2832	2113
50°	5141	2410	1939
55°	4988	2148	1791
60°	4779	1941	1671
65°	4584	1777	1569
70°	4272	1639	1473
75°	3824	1514	1388
80°	3277	1396	1291
85°	2296	1286	1231

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5308 cd/sqm



TEST NUMBER: P1055760

CATALOG NUMBER: S123R3DR-H340D940-X4F0-XX-UDD-F-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.0	5.3
10°-20°	127.0	14.0
20°-30°	167.2	18.4
30°-40°	169.7	18.7
40°-50°	147.5	16.3
50°-60°	115.6	12.7
60°-70°	78.5	8.6
70°-80°	42.5	4.7
80°-90°	11.7	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°	342.2	37.7
0°-40°	511.9	56.4
0°-60°	775.1	85.4
0°-90°	907.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	907.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	518	518	518	518	518	
5°	511	517	510	505	509	49
15°	487	480	451	429	423	137
25°	442	415	357	313	300	204
35°	381	336	256	207	194	239
45°	311	250	166	128	124	240
55°	237	165	102	87	85	212
65°	161	89	62	56	55	159
75°	82	41	32	30	30	88
85°	17	10	9	8	9	21
90°	0	0	0	0	0	

TEST NUMBER: P1055760

CATALOG NUMBER: S123R3DR-H340D940-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	517.7	517.7	517.7	517.7	517.7
2.5°	513.4	520.0	514.9	515.3	516.9
5°	511.1	517.3	509.9	505.3	508.7
7.5°	507.6	512.2	498.7	491.3	492.5
10°	502.2	503.7	485.1	473.5	472.0
12.5°	494.8	492.1	468.9	451.8	449.1
15°	486.7	479.7	450.7	428.6	422.8
17.5°	477.4	465.8	429.4	402.3	393.4
20°	466.5	450.3	406.9	372.5	361.6
22.5°	454.9	434.0	382.5	341.9	330.6
25°	442.2	415.4	357.4	312.8	300.1
27.5°	428.2	396.9	331.8	284.2	269.9
30°	413.1	377.5	305.5	256.3	242.4
32.5°	397.6	357.0	280.3	230.4	216.8
35°	381.4	336.1	255.5	206.8	193.6
37.5°	364.7	314.8	231.5	184.3	171.9
40°	347.7	293.1	208.7	163.4	152.2
42.5°	329.5	271.4	186.6	143.6	135.1
45°	311.3	249.7	166.1	128.2	123.9
47.5°	293.1	227.7	146.7	117.3	113.4
50°	274.1	206.4	128.5	107.2	103.4
52.5°	255.5	185.5	113.4	97.6	94.9
55°	237.3	164.9	102.2	87.1	85.2
57.5°	218.4	144.8	91.0	79.0	76.7
60°	198.2	125.4	80.5	70.5	69.3
62.5°	180.0	107.2	71.2	63.1	61.9
65°	160.7	89.0	62.3	55.8	55.0
67.5°	140.9	74.0	54.2	48.8	48.4
70°	121.2	62.3	46.5	42.2	41.8
72.5°	101.8	51.5	39.1	36.4	35.6
75°	82.1	41.0	32.5	30.2	29.8
77.5°	64.3	31.7	25.9	24.4	24.0
80°	47.2	23.6	20.1	19.0	18.6
82.5°	31.0	16.3	14.3	13.6	13.6
85°	16.6	10.1	9.3	8.5	8.9
87.5°	5.8	4.3	4.3	3.9	4.3
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055760
 CATALOG NUMBER: S123R3DR-H340D940-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	16.92	18.41	17.29	18.73	19.04	12.07	13.56	12.44	13.88	14.19
	3H	18.81	20.15	19.18	20.47	20.84	13.70	15.04	14.08	15.36	15.73
	4H	19.56	20.82	19.96	21.17	21.55	14.33	15.59	14.73	15.94	16.32
	6H	20.13	21.29	20.54	21.65	22.05	14.82	15.98	15.24	16.35	16.74
	8H	20.30	21.40	20.73	21.79	22.20	15.00	16.10	15.42	16.49	16.89
	12H	20.40	21.45	20.83	21.84	22.27	15.12	16.18	15.55	16.56	16.99
4H	2H	16.97	18.22	17.37	18.57	18.95	12.80	14.05	13.20	14.40	14.78
	3H	18.98	20.03	19.39	20.43	20.83	14.62	15.66	15.03	16.06	16.46
	4H	19.80	20.74	20.23	21.16	21.59	15.37	16.30	15.80	16.72	17.16
	6H	20.48	21.30	20.94	21.74	22.20	15.97	16.79	16.43	17.23	17.70
	8H	20.71	21.48	21.18	21.92	22.39	16.19	16.95	16.65	17.40	17.87
	12H	20.87	21.55	21.35	22.03	22.50	16.36	17.04	16.84	17.52	17.99
8H	4H	19.82	20.59	20.29	21.03	21.50	15.75	16.51	16.21	16.96	17.42
	6H	20.55	21.18	21.05	21.68	22.15	16.48	17.11	16.97	17.60	18.08
	8H	20.82	21.39	21.34	21.90	22.39	16.77	17.33	17.28	17.84	18.33
	12H	21.03	21.53	21.54	22.02	22.59	17.01	17.51	17.52	18.00	18.57
12H	4H	19.81	20.49	20.29	20.97	21.44	15.80	16.48	16.28	16.96	17.43
	6H	20.54	21.10	21.05	21.61	22.10	16.56	17.13	17.07	17.64	18.12
	8H	20.84	21.34	21.35	21.84	22.40	16.91	17.41	17.42	17.90	18.47