

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1059508

Luminaire Tested: S123RDR-H1165D840-X4F0-XX-UDD-BVL-B

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059508
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-30)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-H1165D840-X4F0-XX-UDD-BVL-B
Description: DEFINE 3 BLACK REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE
LOUVER WITH DIFFUSER
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

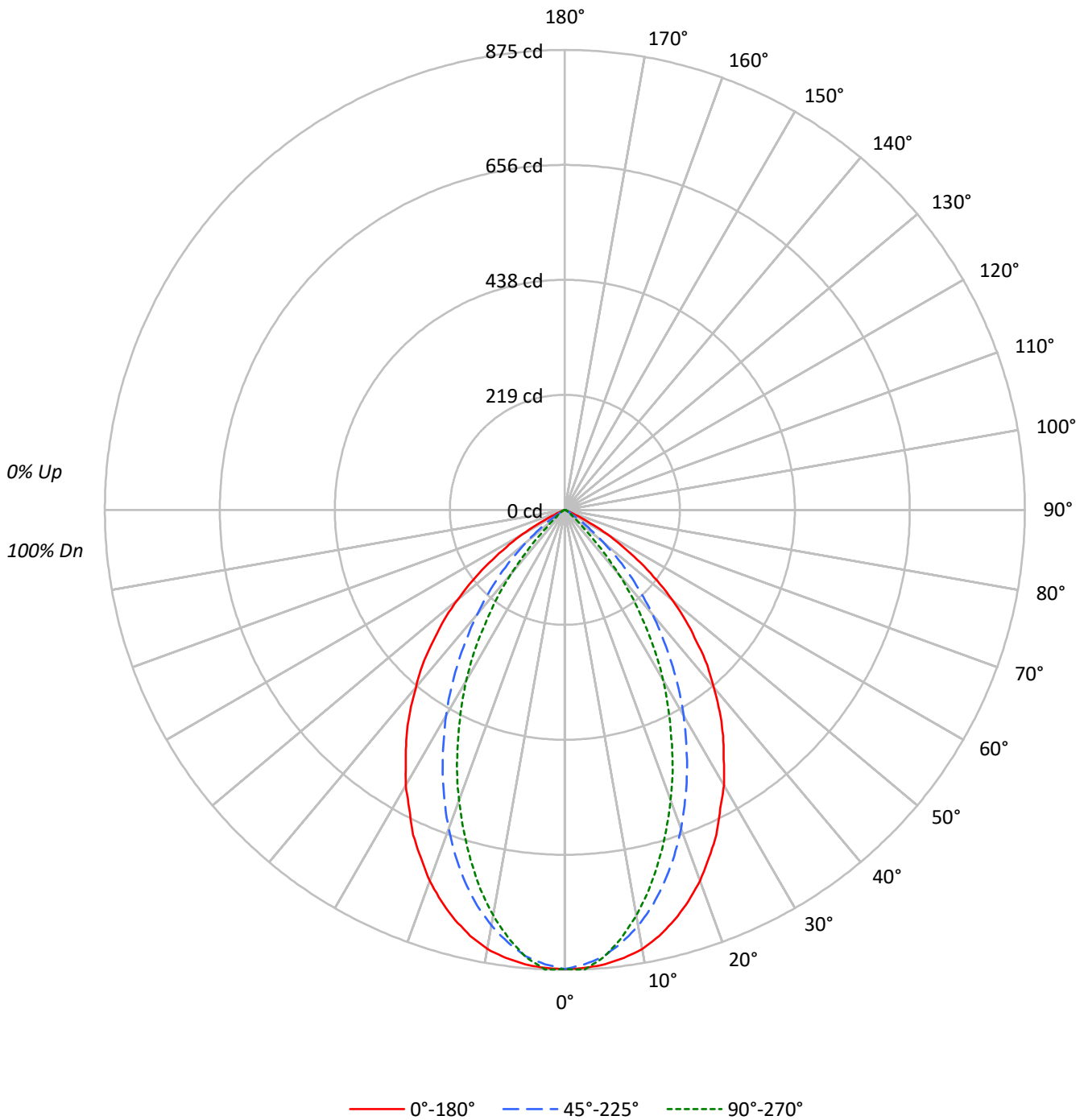
Lumens per Lamp: N/A
Luminaire Lumens: 997.0 lumens
Efficiency: N/A
Efficacy: 27.3 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 0.81 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 36.5
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: P1059508

CATALOG NUMBER: S123RDR-H1165D840-X4F0-XX-UDD-BVL-B

Luminous Intensity Polar Plot





TEST NUMBER: P1059508

CATALOG NUMBER: S123RDR-H1165D840-X4F0-XX-UDD-BVL-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	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	87	85	84
3	100	92	87	82	98	91	86	82	88	84	80	86	82	79	83	80	78	76
4	94	85	79	74	92	84	78	74	82	77	73	80	75	72	78	74	71	69
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63
6	83	73	66	61	81	72	66	61	70	65	60	69	64	60	67	63	60	58
7	78	68	61	56	77	67	60	56	66	60	56	64	59	55	63	58	55	53
8	74	63	56	52	72	62	56	51	61	55	51	60	55	51	59	54	51	49
9	70	59	52	48	68	58	52	48	57	52	47	56	51	47	55	51	47	46
10	66	55	49	44	65	55	48	44	54	48	44	53	48	44	52	47	44	42

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10259	10259	10259
5°	10233	10050	10066
10°	10116	9579	9345
15°	9818	8911	8398
20°	9388	8070	7349
25°	8841	7127	6216
30°	8203	6123	5075
35°	7523	5063	3772
40°	6751	3969	2416
45°	5889	2898	1005
50°	4883	1723	385
55°	3601	721	289
60°	2182	265	164
65°	586	156	78
70°	0	48	48
75°	0	0	64
80°	0	0	0
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5889 cd/sqm



TEST NUMBER: P1059508

CATALOG NUMBER: S123RDR-H1165D840-X4F0-XX-UDD-BVL-B

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.4	8.1
10°-20°	207.6	20.8
20°-30°	258.7	25.9
30°-40°	231.3	23.2
40°-50°	146.0	14.6
50°-60°	61.1	6.1
60°-70°	11.5	1.2
70°-80°	0.4	0.0
80°-90°	0.0	0.0
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°	546.7	54.8
0°-40°	778.1	78.0
0°-60°	985.2	98.8
0°-90°	997.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	997.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	874	874	874	874	874	
5°	868	867	853	855	854	82
15°	808	788	733	702	691	227
25°	682	628	550	502	480	312
35°	525	449	353	290	263	327
45°	355	276	174	93	60	273
55°	176	121	35	14	14	158
65°	21	16	6	3	3	30
75°	0	0	0	0	1	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P1059508

CATALOG NUMBER: S123RDR-H1165D840-X4F0-XX-UDD-BVL-B

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	873.7	873.7	873.7	873.7	873.7
2.5°	872.3	873.7	865.3	873.7	875.1
5°	868.1	866.7	852.6	855.4	854.0
7.5°	859.7	855.4	830.1	824.5	821.7
10°	848.4	837.2	803.4	789.3	783.7
12.5°	830.1	814.6	771.0	748.5	740.1
15°	807.6	787.9	733.0	702.1	690.8
17.5°	780.9	752.7	690.8	657.1	640.2
20°	751.3	711.9	645.8	605.0	588.1
22.5°	716.2	672.5	598.0	554.4	536.1
25°	682.4	627.5	550.1	502.3	479.8
27.5°	640.2	582.5	499.5	450.2	426.3
30°	605.0	538.9	451.6	396.8	374.3
32.5°	562.8	493.9	402.4	341.9	320.8
35°	524.8	448.8	353.2	289.8	263.1
37.5°	484.0	405.2	303.9	237.8	212.5
40°	440.4	361.6	258.9	185.7	157.6
42.5°	401.0	318.0	213.9	137.9	109.7
45°	354.6	275.8	174.5	92.9	60.5
47.5°	312.4	236.4	132.3	52.1	32.4
50°	267.3	195.6	94.3	26.7	21.1
52.5°	220.9	156.2	61.9	18.3	16.9
55°	175.9	121.0	35.2	14.1	14.1
57.5°	132.3	87.2	18.3	11.3	9.8
60°	92.9	57.7	11.3	8.4	7.0
62.5°	53.5	33.8	8.4	5.6	5.6
65°	21.1	15.5	5.6	2.8	2.8
67.5°	1.4	4.2	2.8	1.4	1.4
70°	0.0	0.0	1.4	1.4	1.4
72.5°	0.0	0.0	1.4	1.4	1.4
75°	0.0	0.0	0.0	0.0	1.4
77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1059508
 CATALOG NUMBER: S123RDR-H1165D840-X4F0-XX-UDD-BVL-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	13.28	14.46	13.64	14.77	15.08	0.00	0.00	0.00	0.00	0.13
	3H	13.12	14.15	13.50	14.48	14.85	0.00	0.00	0.00	0.00	0.00
	4H	13.03	13.99	13.44	14.34	14.73	0.00	0.00	0.00	0.00	0.00
	6H	12.94	13.81	13.36	14.18	14.58	0.00	0.00	0.00	0.00	0.00
	8H	12.89	13.71	13.32	14.10	14.51	0.00	0.00	0.00	0.00	0.00
	12H	12.84	13.62	13.27	14.01	14.44	0.00	0.00	0.00	0.00	0.00
4H	2H	13.04	13.99	13.44	14.34	14.73	0.00	0.00	0.00	0.00	0.22
	3H	12.87	13.64	13.29	14.05	14.45	0.00	0.00	0.00	0.00	0.10
	4H	12.77	13.45	13.20	13.87	14.32	0.00	0.00	0.00	0.00	0.03
	6H	12.67	13.26	13.14	13.70	14.18	0.00	0.00	0.00	0.00	0.00
	8H	12.61	13.15	13.08	13.60	14.07	0.00	0.00	0.00	0.00	0.00
	12H	12.55	13.03	13.04	13.51	13.99	0.00	0.00	0.00	0.00	0.00
8H	4H	12.61	13.15	13.08	13.60	14.07	0.00	0.00	0.00	0.00	0.00
	6H	12.49	12.93	13.00	13.43	13.91	0.00	0.00	0.00	0.00	0.00
	8H	12.42	12.81	12.95	13.33	13.83	0.00	0.00	0.00	0.00	0.00
	12H	12.36	12.71	12.88	13.21	13.79	0.00	0.00	0.00	0.00	0.00
12H	4H	12.55	13.03	13.04	13.51	13.99	0.00	0.00	0.00	0.00	0.00
	6H	12.42	12.81	12.95	13.33	13.83	0.00	0.00	0.00	0.00	0.00
	8H	12.36	12.71	12.88	13.21	13.79	0.00	0.00	0.00	0.00	0.00