

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: P1059525

Luminaire Tested: S123RDR-H1165D850-X4F0-XX-UDD-WVL-W

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059525
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-64)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-H1165D850-X4F0-XX-UDD-WVL-W
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE LOUVER WITH DIFFUSER
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

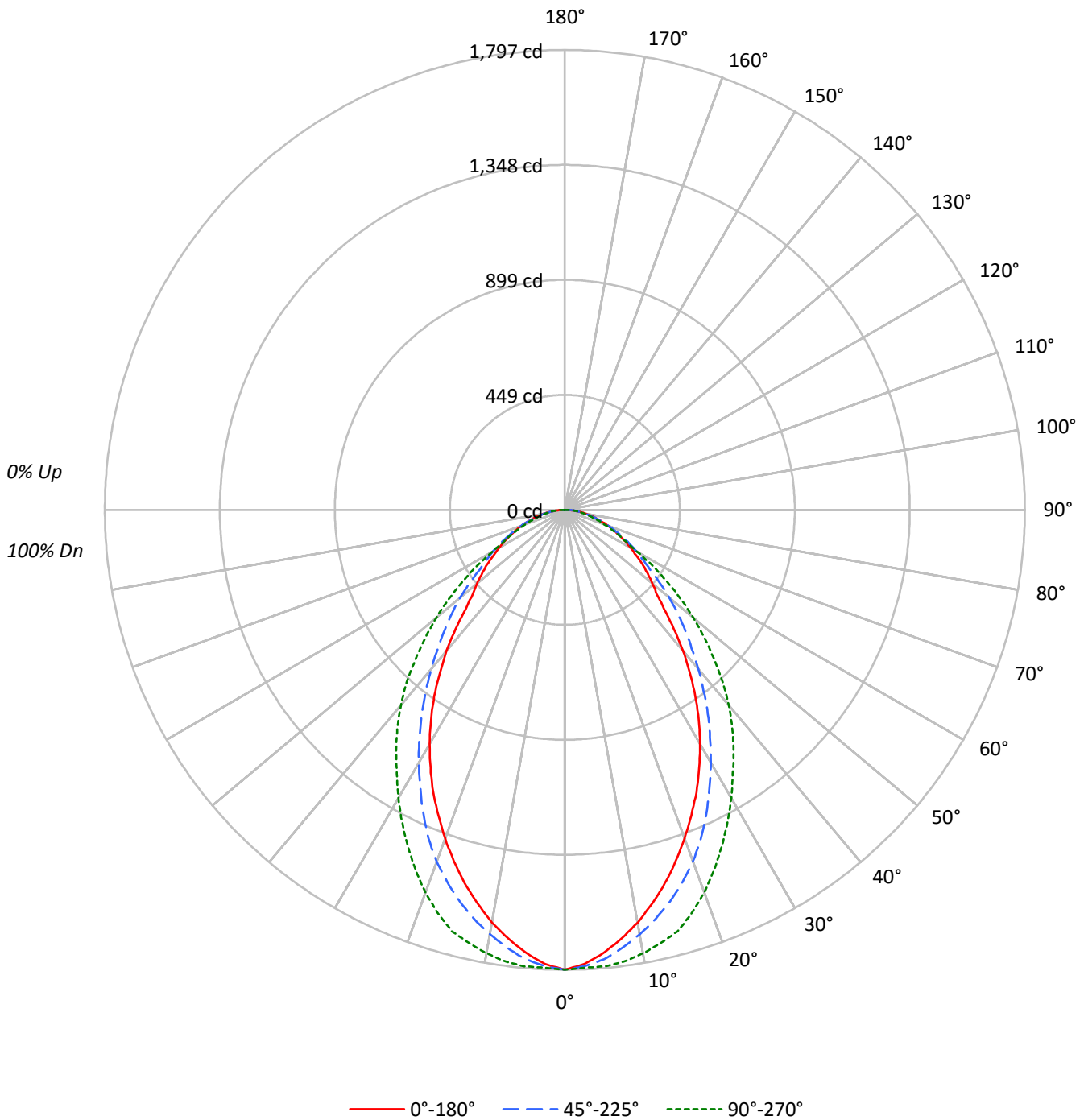
Lumens per Lamp: N/A
Luminaire Lumens: 3157.2 lumens
Efficiency: N/A
Efficacy: 86.5 lumens/watt
Spacing Criteria (0/90/45): 0.94 / 1.1 / 1.09
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

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: P1059525

CATALOG NUMBER: S123RDR-H1165D850-X4F0-XX-UDD-WVL-W

Luminous Intensity Polar Plot





TEST NUMBER: P1059525

CATALOG NUMBER: S123RDR-H1165D850-X4F0-XX-UDD-WVL-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	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	108	104	101	97	100	97	94	96	94	92	92	91	89	87			87	
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75			75	
3	94	85	77	72	92	83	76	71	80	75	70	78	73	69	75	71	68	66			66	
4	87	76	69	63	85	75	68	62	73	66	61	70	65	61	68	64	60	58			58	
5	81	69	61	55	79	68	61	55	66	59	54	64	58	54	62	57	53	51			51	
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46			46	
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41			41	
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38			38	
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34			34	
10	58	46	39	34	57	45	38	34	45	38	34	44	38	33	43	37	33	32			32	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21098	21098	21098
5°	20486	20777	21106
10°	19525	20078	20981
15°	18365	19267	20715
20°	17081	18279	19882
25°	15767	16948	18792
30°	14320	15472	17632
35°	12745	13964	16469
40°	10998	12444	15264
45°	9090	11015	13687
50°	8164	9717	11949
55°	7567	8293	9909
60°	6973	7553	7590
65°	6488	6832	6357
70°	6104	6211	5576
75°	5753	5544	4909
80°	5437	5018	4598
85°	5214	5618	5214

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 13687 cd/sqm



TEST NUMBER: P1059525

CATALOG NUMBER: S123RDR-H1165D850-X4F0-XX-UDD-WVL-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.4	5.3
10°-20°	448.3	14.2
20°-30°	606.5	19.2
30°-40°	623.3	19.7
40°-50°	523.5	16.6
50°-60°	375.3	11.9
60°-70°	238.9	7.6
70°-80°	131.3	4.2
80°-90°	43.8	1.4
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°	1221.3	38.7
0°-40°	1844.5	58.4
0°-60°	2743.2	86.9
0°-90°	3157.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3157.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1797	1797	1797	1797	1797	
5°	1738	1769	1763	1775	1791	163
15°	1511	1552	1585	1653	1704	423
25°	1217	1263	1308	1379	1450	558
35°	889	937	974	1061	1149	553
45°	547	595	663	759	824	432
55°	370	377	405	459	484	330
65°	234	247	246	232	229	233
75°	127	139	122	113	108	135
85°	39	40	42	43	39	43
90°	0	0	0	0	0	

TEST NUMBER: P1059525

CATALOG NUMBER: S123RDR-H1165D850-X4F0-XX-UDD-WVL-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1796.7	1796.7	1796.7	1796.7	1796.7
2.5°	1776.6	1801.4	1784.4	1785.9	1790.6
5°	1738.0	1768.9	1762.7	1775.1	1790.6
7.5°	1690.1	1724.1	1725.6	1755.0	1779.7
10°	1637.5	1673.0	1683.9	1728.7	1759.6
12.5°	1575.6	1614.3	1637.5	1693.1	1733.3
15°	1510.7	1552.4	1584.9	1652.9	1704.0
17.5°	1439.6	1484.4	1526.1	1598.8	1651.4
20°	1366.9	1414.8	1462.8	1530.8	1591.1
22.5°	1291.1	1340.6	1390.1	1456.6	1523.1
25°	1216.9	1263.3	1308.1	1379.3	1450.4
27.5°	1136.5	1184.4	1223.1	1301.9	1376.2
30°	1056.1	1104.0	1141.1	1223.1	1300.4
32.5°	972.6	1022.1	1056.1	1141.1	1221.5
35°	889.1	937.0	974.1	1060.7	1148.9
37.5°	801.0	853.5	890.6	988.1	1074.6
40°	717.5	766.9	811.8	913.8	995.8
42.5°	630.9	681.9	732.9	838.1	913.8
45°	547.4	595.3	663.3	759.2	824.2
47.5°	487.1	518.0	596.9	677.3	739.1
50°	446.9	459.2	531.9	603.0	654.1
52.5°	406.7	415.9	465.4	530.4	569.0
55°	369.6	377.3	405.1	459.2	484.0
57.5°	329.4	337.1	360.3	391.2	405.1
60°	296.9	303.1	321.6	326.3	323.2
62.5°	264.4	273.7	283.0	272.1	267.5
65°	233.5	247.4	245.9	231.9	228.8
67.5°	205.7	219.6	211.8	197.9	193.3
70°	177.8	191.7	180.9	167.0	162.4
72.5°	151.5	167.0	150.0	137.6	134.5
75°	126.8	139.2	122.2	112.9	108.2
77.5°	103.6	112.9	97.4	89.7	86.6
80°	80.4	86.6	74.2	69.6	68.0
82.5°	58.8	61.8	54.1	57.2	55.7
85°	38.7	40.2	41.7	43.3	38.7
87.5°	18.6	26.3	26.3	24.7	20.1
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1059525
 CATALOG NUMBER: S123RDR-H1165D850-X4F0-XX-UDD-WVL-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	17.78	19.24	18.14	19.56	19.87	18.85	20.31	19.21	20.62	20.94
	3H	19.48	20.79	19.85	21.12	21.48	19.93	21.24	20.31	21.57	21.93
	4H	20.13	21.36	20.53	21.71	22.09	20.33	21.56	20.73	21.91	22.29
	6H	20.63	21.77	21.05	22.13	22.53	20.64	21.78	21.06	22.15	22.54
	8H	20.81	21.88	21.23	22.27	22.68	20.78	21.86	21.21	22.25	22.65
	12H	20.93	21.96	21.36	22.35	22.78	20.90	21.93	21.33	22.31	22.74
4H	2H	18.38	19.61	18.78	19.96	20.34	19.25	20.48	19.65	20.83	21.21
	3H	20.31	21.33	20.72	21.73	22.13	20.57	21.59	20.98	21.99	22.39
	4H	21.12	22.04	21.55	22.45	22.89	21.09	22.00	21.52	22.42	22.86
	6H	21.77	22.56	22.23	23.01	23.47	21.52	22.32	21.98	22.76	23.22
	8H	21.99	22.73	22.45	23.18	23.65	21.71	22.46	22.18	22.90	23.37
	12H	22.16	22.83	22.65	23.31	23.78	21.89	22.56	22.38	23.04	23.51
8H	4H	21.36	22.10	21.82	22.55	23.01	21.33	22.08	21.80	22.52	22.99
	6H	22.15	22.76	22.64	23.25	23.73	21.88	22.50	22.38	22.99	23.47
	8H	22.46	23.01	22.97	23.52	24.01	22.16	22.71	22.68	23.22	23.71
	12H	22.73	23.22	23.24	23.71	24.27	22.45	22.94	22.96	23.43	24.00
12H	4H	21.37	22.03	21.85	22.51	22.98	21.36	22.03	21.84	22.50	22.98
	6H	22.18	22.73	22.69	23.24	23.73	21.93	22.49	22.45	23.00	23.49
	8H	22.55	23.04	23.07	23.54	24.10	22.28	22.76	22.79	23.26	23.82