

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: P1059519

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

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059519
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-66)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-H1165D850-X4F0-XX-UDD-BVL-W
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE LOUVER WITH DIFFUSER
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

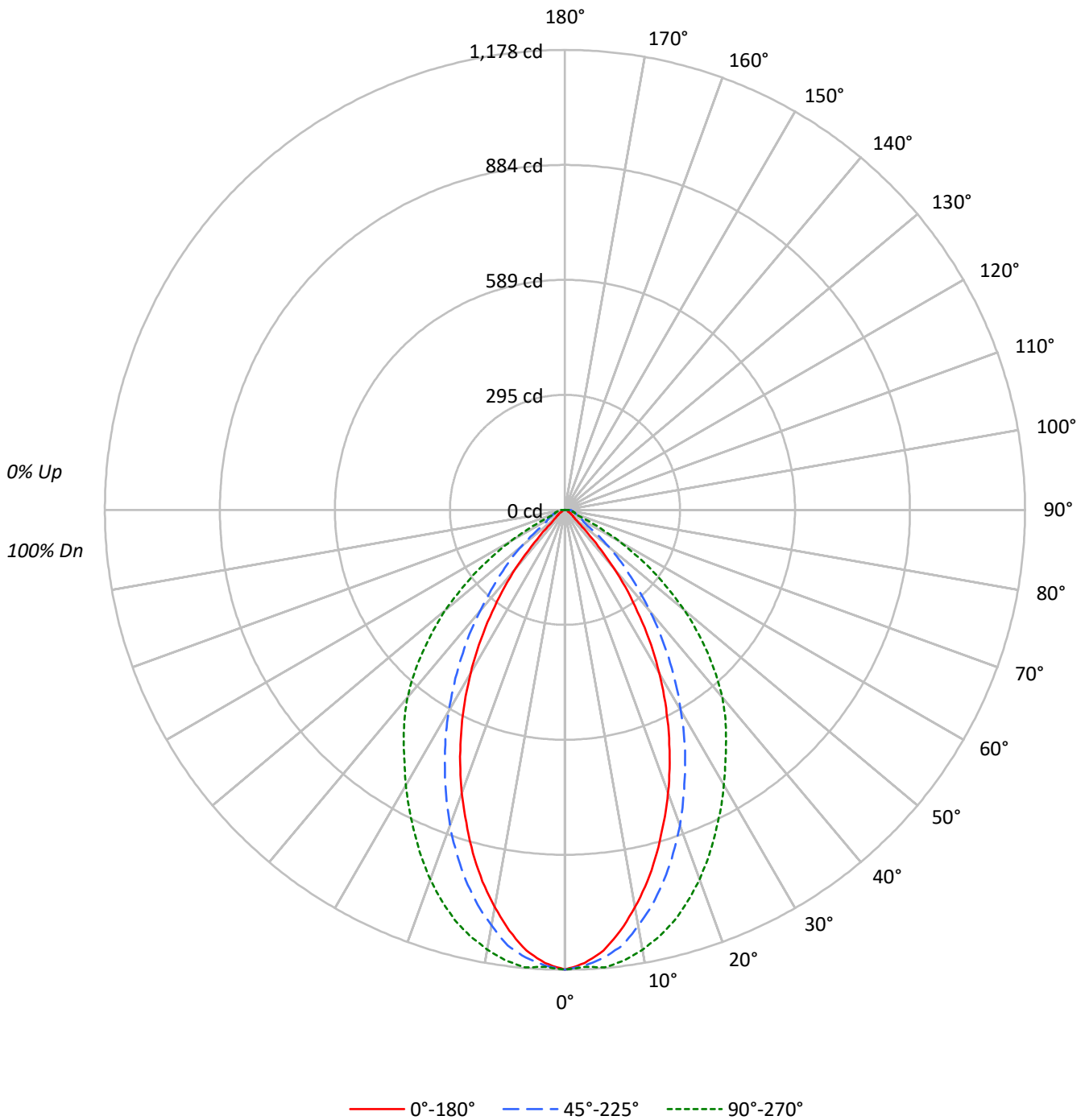
Lumens per Lamp: N/A
Luminaire Lumens: 1414.0 lumens
Efficiency: N/A
Efficacy: 38.7 lumens/watt
Spacing Criteria (0/90/45): 0.79 / 1.06 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

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: P1059519

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

Luminous Intensity Polar Plot





TEST NUMBER: P1059519

CATALOG NUMBER: S123RDR-H1165D850-X4F0-XX-UDD-BVL-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				
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90				
2	105	99	94	90	102	97	92	88	94	90	87	91	87	85	88	85	83	81				
3	98	90	84	79	96	89	83	79	86	81	77	83	79	76	81	78	75	73				
4	92	83	76	71	90	81	75	70	79	74	70	77	72	69	75	71	68	66				
5	86	76	69	64	84	75	69	64	73	67	63	71	66	62	70	65	62	60				
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	57	55				
7	76	65	58	53	75	65	58	53	63	57	53	62	56	52	61	56	52	50				
8	72	61	54	49	70	60	53	49	59	53	49	58	52	48	57	52	48	47				
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43				
10	64	53	46	42	63	53	46	42	52	46	42	51	45	42	50	45	42	40				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13829	13829	13829
5°	13353	13572	13864
10°	12327	12899	13637
15°	11063	11928	13226
20°	9651	10753	12590
25°	8140	9424	11810
30°	6548	8058	11037
35°	4792	6633	10315
40°	2989	5172	9608
45°	1131	3854	8559
50°	537	2658	7294
55°	411	1458	5640
60°	291	1235	3708
65°	214	1075	1548
70°	213	1009	1009
75°	281	1053	1053
80°	419	1258	1150
85°	835	2088	1671

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 8559 cd/sqm



TEST NUMBER: P1059519

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.1	7.6
10°-20°	277.2	19.6
20°-30°	343.2	24.3
30°-40°	307.6	21.8
40°-50°	201.7	14.3
50°-60°	101.0	7.1
60°-70°	39.4	2.8
70°-80°	22.2	1.6
80°-90°	13.7	1.0
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°	728.5	51.5
0°-40°	1036.1	73.3
0°-60°	1338.8	94.7
0°-90°	1414.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1414.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1178	1178	1178	1178	1178	
5°	1133	1151	1151	1164	1176	105
15°	910	947	981	1046	1088	253
25°	628	667	727	831	912	287
35°	334	379	463	602	720	208
45°	68	110	232	398	515	65
55°	20	25	71	195	276	18
65°	8	23	39	51	56	8
75°	6	23	23	23	23	7
85°	6	16	16	16	12	5
90°	0	0	0	0	0	



TEST NUMBER: P1059519

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1177.7	1177.7	1177.7	1177.7	1177.7
2.5°	1162.3	1179.3	1168.4	1170.0	1171.5
5°	1132.8	1151.4	1151.4	1163.8	1176.2
7.5°	1088.0	1109.6	1125.1	1146.8	1163.8
10°	1033.8	1060.1	1081.8	1120.5	1143.7
12.5°	975.0	1007.5	1035.3	1086.4	1118.9
15°	910.0	947.1	981.2	1046.2	1088.0
17.5°	840.3	877.5	922.4	998.2	1049.3
20°	772.3	809.4	860.5	945.6	1007.5
22.5°	701.1	739.8	793.9	888.3	961.1
25°	628.3	667.0	727.4	831.1	911.5
27.5°	555.6	594.3	662.4	775.3	863.6
30°	482.9	521.5	594.3	715.0	814.0
32.5°	410.1	451.9	527.7	659.3	764.5
35°	334.3	379.2	462.7	602.0	719.6
37.5°	264.6	306.4	400.8	552.5	674.8
40°	195.0	239.9	337.4	504.5	626.8
42.5°	126.9	174.9	280.1	451.9	572.6
45°	68.1	109.9	232.1	397.7	515.4
47.5°	37.1	60.4	187.3	340.5	456.5
50°	29.4	34.0	145.5	290.9	399.3
52.5°	24.8	27.9	103.7	244.5	335.8
55°	20.1	24.8	71.2	195.0	275.5
57.5°	17.0	21.7	55.7	151.7	215.1
60°	12.4	18.6	52.6	111.4	157.9
62.5°	9.3	20.1	46.4	77.4	103.7
65°	7.7	23.2	38.7	51.1	55.7
67.5°	6.2	24.8	34.0	32.5	32.5
70°	6.2	23.2	29.4	27.9	29.4
72.5°	6.2	24.8	26.3	24.8	26.3
75°	6.2	23.2	23.2	23.2	23.2
77.5°	6.2	21.7	21.7	20.1	20.1
80°	6.2	18.6	18.6	18.6	17.0
82.5°	6.2	17.0	17.0	17.0	13.9
85°	6.2	15.5	15.5	15.5	12.4
87.5°	4.6	13.9	15.5	13.9	9.3
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1059519
 CATALOG NUMBER: S123RDR-H1165D850-X4F0-XX-UDD-BVL-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	1.49	2.75	1.86	3.06	3.37	15.73	16.99	16.10	17.30	17.61
	3H	3.82	4.93	4.20	5.26	5.63	15.81	16.92	16.19	17.25	17.62
	4H	4.92	5.96	5.33	6.31	6.69	15.89	16.92	16.29	17.27	17.66
	6H	5.92	6.87	6.33	7.24	7.63	15.99	16.94	16.41	17.31	17.71
	8H	6.40	7.30	6.83	7.69	8.09	16.05	16.95	16.48	17.34	17.75
	12H	6.96	7.81	7.39	8.20	8.63	16.13	16.99	16.57	17.37	17.80
4H	2H	4.74	5.77	5.14	6.12	6.51	15.59	16.62	15.99	16.97	17.36
	3H	7.05	7.90	7.47	8.30	8.71	15.76	16.61	16.18	17.01	17.42
	4H	8.42	9.18	8.86	9.60	10.04	15.91	16.67	16.35	17.09	17.53
	6H	9.51	10.16	9.98	10.61	11.08	16.14	16.79	16.60	17.24	17.71
	8H	9.97	10.58	10.44	11.03	11.50	16.26	16.87	16.73	17.32	17.79
	12H	10.46	11.00	10.95	11.49	11.96	16.44	16.97	16.92	17.46	17.93
8H	4H	9.40	10.01	9.87	10.46	10.93	15.91	16.52	16.38	16.97	17.44
	6H	10.92	11.42	11.43	11.92	12.40	16.25	16.75	16.75	17.24	17.73
	8H	11.69	12.14	12.22	12.66	13.15	16.48	16.93	17.00	17.45	17.94
	12H	12.50	12.90	13.01	13.39	13.96	16.81	17.21	17.33	17.71	18.28
12H	4H	9.57	10.11	10.06	10.60	11.07	15.90	16.43	16.38	16.92	17.39
	6H	11.24	11.69	11.76	12.20	12.70	16.27	16.72	16.79	17.23	17.73
	8H	12.19	12.59	12.71	13.08	13.66	16.58	16.97	17.09	17.47	18.04