

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: P1059516

Luminaire Tested: S123RDR-H1165D840-X4F0-XX-UDD-WVL-W

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059516
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-H1165D840-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: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

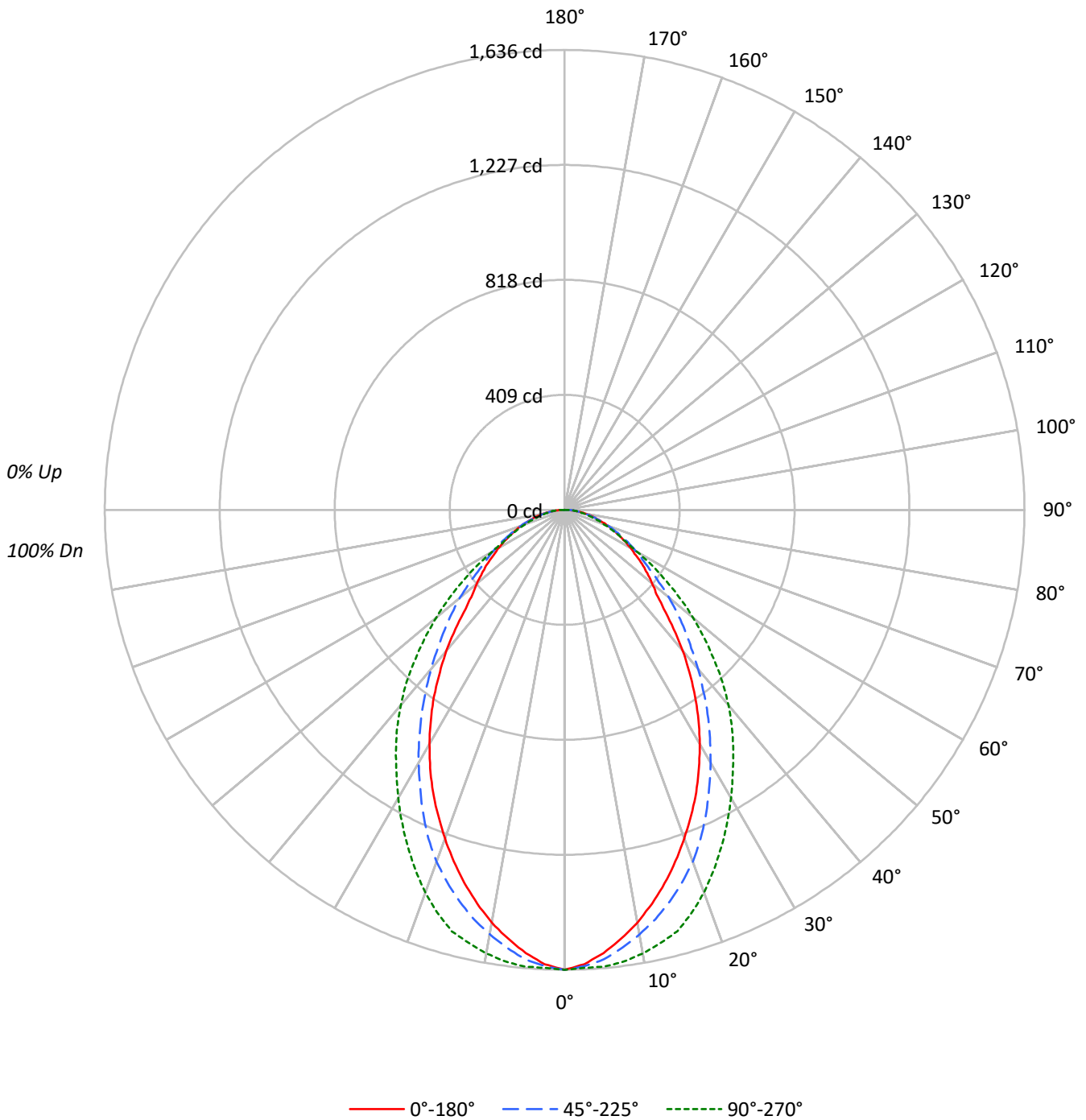
Lumens per Lamp: N/A
Luminaire Lumens: 2875.0 lumens
Efficiency: N/A
Efficacy: 78.8 lumens/watt
Spacing Criteria (0/90/45): 0.94 / 1.1 / 1.09
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

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: P1059516

CATALOG NUMBER: S123RDR-H1165D840-X4F0-XX-UDD-WVL-W

Luminous Intensity Polar Plot





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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19212	19212	19212
5°	18655	18921	19219
10°	17779	18282	19105
15°	16723	17544	18862
20°	15554	16645	18106
25°	14357	15434	17111
30°	13040	14089	16057
35°	11606	12716	14997
40°	10014	11331	13900
45°	8277	10030	12463
50°	7433	8849	10880
55°	6889	7552	9022
60°	6348	6879	6912
65°	5907	6221	5790
70°	5558	5655	5074
75°	5240	5045	4473
80°	4950	4571	4193
85°	4742	5120	4742

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 12463 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.5	5.3
10°-20°	408.3	14.2
20°-30°	552.3	19.2
30°-40°	567.5	19.7
40°-50°	476.6	16.6
50°-60°	341.7	11.9
60°-70°	217.6	7.6
70°-80°	119.6	4.2
80°-90°	39.8	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°	1112.1	38.7
0°-40°	1679.6	58.4
0°-60°	2498.0	86.9
0°-90°	2875.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2875.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1636	1636	1636	1636	1636	
5°	1583	1611	1605	1616	1630	148
15°	1376	1414	1443	1505	1552	385
25°	1108	1150	1191	1256	1321	508
35°	810	853	887	966	1046	504
45°	498	542	604	691	750	394
55°	336	344	369	418	441	301
65°	213	225	224	211	208	212
75°	116	127	111	103	99	123
85°	35	37	38	39	35	39
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1636.1	1636.1	1636.1	1636.1	1636.1
2.5°	1617.8	1640.4	1624.9	1626.3	1630.5
5°	1582.6	1610.8	1605.2	1616.4	1630.5
7.5°	1539.0	1570.0	1571.4	1598.1	1620.6
10°	1491.1	1523.5	1533.3	1574.2	1602.3
12.5°	1434.8	1470.0	1491.1	1541.8	1578.4
15°	1375.6	1413.7	1443.2	1505.2	1551.6
17.5°	1310.9	1351.7	1389.7	1455.9	1503.8
20°	1244.7	1288.3	1332.0	1393.9	1448.9
22.5°	1175.7	1220.8	1265.8	1326.4	1386.9
25°	1108.1	1150.4	1191.2	1256.0	1320.7
27.5°	1034.9	1078.6	1113.8	1185.6	1253.1
30°	961.7	1005.3	1039.1	1113.8	1184.2
32.5°	885.7	930.7	961.7	1039.1	1112.3
35°	809.6	853.3	887.1	965.9	1046.2
37.5°	729.4	777.2	811.0	899.7	978.6
40°	653.3	698.4	739.2	832.1	906.8
42.5°	574.5	620.9	667.4	763.2	832.1
45°	498.4	542.1	604.0	691.3	750.5
47.5°	443.5	471.7	543.5	616.7	673.0
50°	406.9	418.2	484.4	549.1	595.6
52.5°	370.3	378.8	423.8	483.0	518.2
55°	336.5	343.6	368.9	418.2	440.7
57.5°	299.9	307.0	328.1	356.2	368.9
60°	270.3	276.0	292.9	297.1	294.3
62.5°	240.8	249.2	257.7	247.8	243.6
65°	212.6	225.3	223.9	211.2	208.4
67.5°	187.3	199.9	192.9	180.2	176.0
70°	161.9	174.6	164.7	152.1	147.8
72.5°	138.0	152.1	136.6	125.3	122.5
75°	115.5	126.7	111.2	102.8	98.6
77.5°	94.3	102.8	88.7	81.7	78.8
80°	73.2	78.8	67.6	63.4	62.0
82.5°	53.5	56.3	49.3	52.1	50.7
85°	35.2	36.6	38.0	39.4	35.2
87.5°	16.9	23.9	23.9	22.5	18.3
90°	0.0	0.0	0.0	0.0	0.0



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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	17.45	18.92	17.82	19.23	19.55	18.52	19.99	18.89	20.30	20.61
	3H	19.15	20.46	19.53	20.79	21.15	19.61	20.92	19.99	21.25	21.61
	4H	19.81	21.03	20.21	21.38	21.76	20.01	21.24	20.41	21.59	21.97
	6H	20.31	21.44	20.72	21.81	22.20	20.32	21.45	20.73	21.82	22.21
	8H	20.48	21.56	20.91	21.95	22.35	20.45	21.53	20.88	21.92	22.32
	12H	20.61	21.64	21.04	22.02	22.45	20.57	21.61	21.01	21.99	22.42
4H	2H	18.06	19.28	18.46	19.63	20.01	18.93	20.15	19.33	20.50	20.88
	3H	19.98	21.00	20.39	21.40	21.80	20.24	21.26	20.66	21.66	22.06
	4H	20.79	21.71	21.23	22.13	22.57	20.76	21.68	21.20	22.10	22.54
	6H	21.44	22.24	21.90	22.68	23.14	21.20	21.99	21.65	22.44	22.90
	8H	21.66	22.41	22.13	22.85	23.32	21.39	22.13	21.85	22.58	23.04
	12H	21.84	22.50	22.32	22.98	23.45	21.57	22.23	22.05	22.71	23.18
8H	4H	21.03	21.78	21.50	22.22	22.69	21.01	21.75	21.47	22.20	22.67
	6H	21.82	22.43	22.32	22.93	23.40	21.56	22.17	22.06	22.66	23.14
	8H	22.13	22.68	22.65	23.20	23.68	21.83	22.39	22.35	22.90	23.39
	12H	22.40	22.89	22.91	23.38	23.95	22.13	22.62	22.64	23.11	23.67
12H	4H	21.04	21.71	21.53	22.19	22.66	21.04	21.70	21.52	22.18	22.65
	6H	21.85	22.41	22.37	22.92	23.41	21.61	22.16	22.13	22.67	23.16
	8H	22.23	22.72	22.74	23.21	23.78	21.95	22.44	22.46	22.93	23.50