

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: P1055703

Luminaire Tested: S123R3DR-H1000D935-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055703
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-H1000D935-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

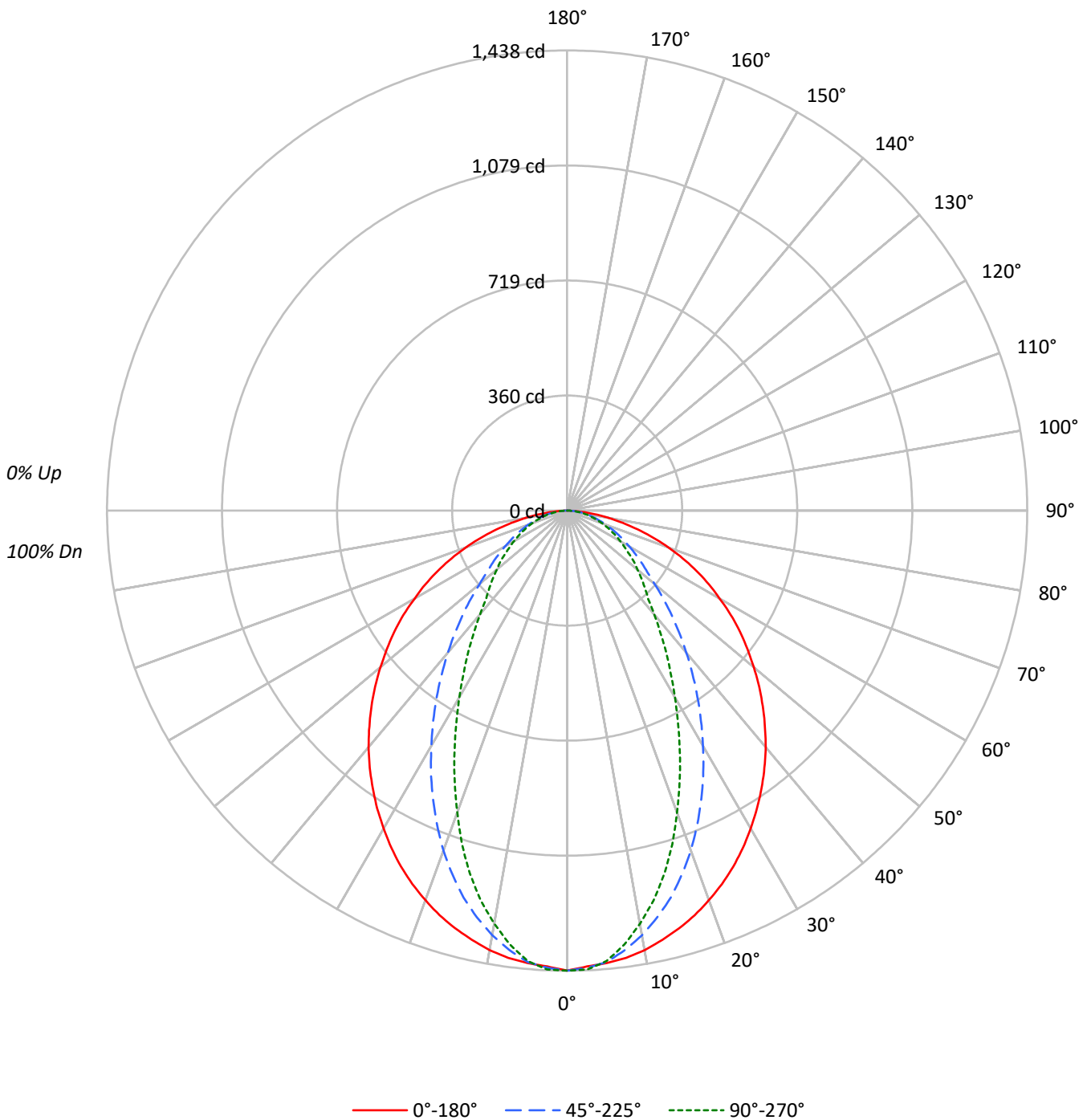
Lumens per Lamp: N/A
Luminaire Lumens: 2521.3 lumens
Efficiency: N/A
Efficacy: 81.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
Input Voltage (V): 120
Input Current (A_{in}): 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

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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	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	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°	17332	17332	17332
5°	17177	17138	17100
10°	17073	16494	16046
15°	16870	15622	14656
20°	16624	14499	12885
25°	16334	13203	11085
30°	15972	11811	9371
35°	15588	10445	7912
40°	15197	9122	6651
45°	14740	7865	5867
50°	14279	6696	5385
55°	13854	5967	4973
60°	13274	5394	4642
65°	12729	4938	4356
70°	11865	4547	4093
75°	10621	4206	3857
80°	9109	3881	3583
85°	6391	3569	3417

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14740 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.3	5.3
10°-20°	352.6	14.0
20°-30°	464.5	18.4
30°-40°	471.4	18.7
40°-50°	409.7	16.3
50°-60°	321.0	12.7
60°-70°	218.1	8.7
70°-80°	118.2	4.7
80°-90°	32.5	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°	950.3	37.7
0°-40°	1421.7	56.4
0°-60°	2152.5	85.4
0°-90°	2521.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2521.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1438	1438	1438	1438	1438	
5°	1419	1436	1416	1403	1413	135
15°	1352	1332	1252	1190	1174	381
25°	1228	1154	992	869	833	565
35°	1059	933	710	574	538	663
45°	864	694	461	356	344	667
55°	659	458	284	242	237	588
65°	446	247	173	155	153	441
75°	228	114	90	84	83	243
85°	46	28	26	24	25	58
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1437.6	1437.6	1437.6	1437.6	1437.6
2.5°	1425.8	1444.1	1430.1	1431.2	1435.5
5°	1419.3	1436.5	1416.1	1403.2	1412.9
7.5°	1409.7	1422.6	1384.9	1364.5	1367.7
10°	1394.6	1398.9	1347.3	1315.0	1310.7
12.5°	1374.2	1366.6	1302.1	1254.8	1247.3
15°	1351.6	1332.2	1251.6	1190.3	1174.2
17.5°	1325.8	1293.5	1192.5	1117.2	1092.5
20°	1295.7	1250.5	1130.1	1034.4	1004.3
22.5°	1263.4	1205.4	1062.3	949.4	918.3
25°	1227.9	1153.7	992.5	868.8	833.3
27.5°	1189.2	1102.1	921.5	789.2	749.5
30°	1147.3	1048.4	848.4	711.8	673.1
32.5°	1104.3	991.4	778.5	639.8	602.1
35°	1059.1	933.3	709.7	574.2	537.6
37.5°	1012.9	874.2	643.0	511.8	477.4
40°	965.6	814.0	579.6	453.8	422.6
42.5°	915.0	753.8	518.3	398.9	375.3
45°	864.5	693.5	461.3	355.9	344.1
47.5°	814.0	632.2	407.5	325.8	315.0
50°	761.3	573.1	357.0	297.8	287.1
52.5°	709.7	515.0	315.0	271.0	263.4
55°	659.1	458.1	283.9	241.9	236.6
57.5°	606.4	402.1	252.7	219.4	212.9
60°	550.5	348.4	223.7	195.7	192.5
62.5°	500.0	297.8	197.8	175.3	172.0
65°	446.2	247.3	173.1	154.8	152.7
67.5°	391.4	205.4	150.5	135.5	134.4
70°	336.6	173.1	129.0	117.2	116.1
72.5°	282.8	143.0	108.6	101.1	98.9
75°	228.0	114.0	90.3	83.9	82.8
77.5°	178.5	88.2	72.0	67.7	66.7
80°	131.2	65.6	55.9	52.7	51.6
82.5°	86.0	45.2	39.8	37.6	37.6
85°	46.2	28.0	25.8	23.7	24.7
87.5°	16.1	11.8	11.8	10.8	11.8
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	20.47	21.96	20.83	22.27	22.59	15.62	17.11	15.98	17.42	17.74
	3H	22.36	23.69	22.73	24.02	24.38	17.25	18.59	17.62	18.91	19.28
	4H	23.11	24.37	23.51	24.72	25.10	17.88	19.14	18.28	19.49	19.87
	6H	23.68	24.84	24.09	25.20	25.60	18.37	19.53	18.79	19.90	20.29
	8H	23.85	24.95	24.28	25.34	25.75	18.54	19.65	18.97	20.04	20.44
	12H	23.95	25.00	24.38	25.39	25.81	18.67	19.72	19.10	20.11	20.54
4H	2H	20.51	21.77	20.91	22.12	22.50	16.35	17.60	16.75	17.95	18.33
	3H	22.53	23.58	22.94	23.98	24.38	18.17	19.21	18.58	19.61	20.01
	4H	23.35	24.29	23.78	24.71	25.14	18.91	19.85	19.35	20.27	20.71
	6H	24.03	24.85	24.49	25.29	25.75	19.52	20.34	19.98	20.78	21.24
	8H	24.26	25.03	24.73	25.47	25.94	19.74	20.50	20.20	20.95	21.41
	12H	24.41	25.10	24.90	25.58	26.05	19.91	20.59	20.39	21.07	21.54
8H	4H	23.37	24.14	23.84	24.58	25.05	19.30	20.06	19.76	20.51	20.97
	6H	24.10	24.73	24.60	25.23	25.70	20.03	20.66	20.52	21.15	21.63
	8H	24.37	24.94	24.89	25.45	25.94	20.31	20.88	20.83	21.39	21.88
	12H	24.58	25.08	25.09	25.57	26.14	20.56	21.06	21.07	21.55	22.11
12H	4H	23.36	24.04	23.84	24.52	24.99	19.35	20.03	19.83	20.51	20.98
	6H	24.09	24.65	24.60	25.16	25.65	20.11	20.67	20.62	21.18	21.67
	8H	24.39	24.89	24.90	25.39	25.95	20.45	20.95	20.96	21.45	22.01