

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: P1439898

Luminaire Tested: S124DR-H1005D850-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439898
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-563-1)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DR-H1005D850-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

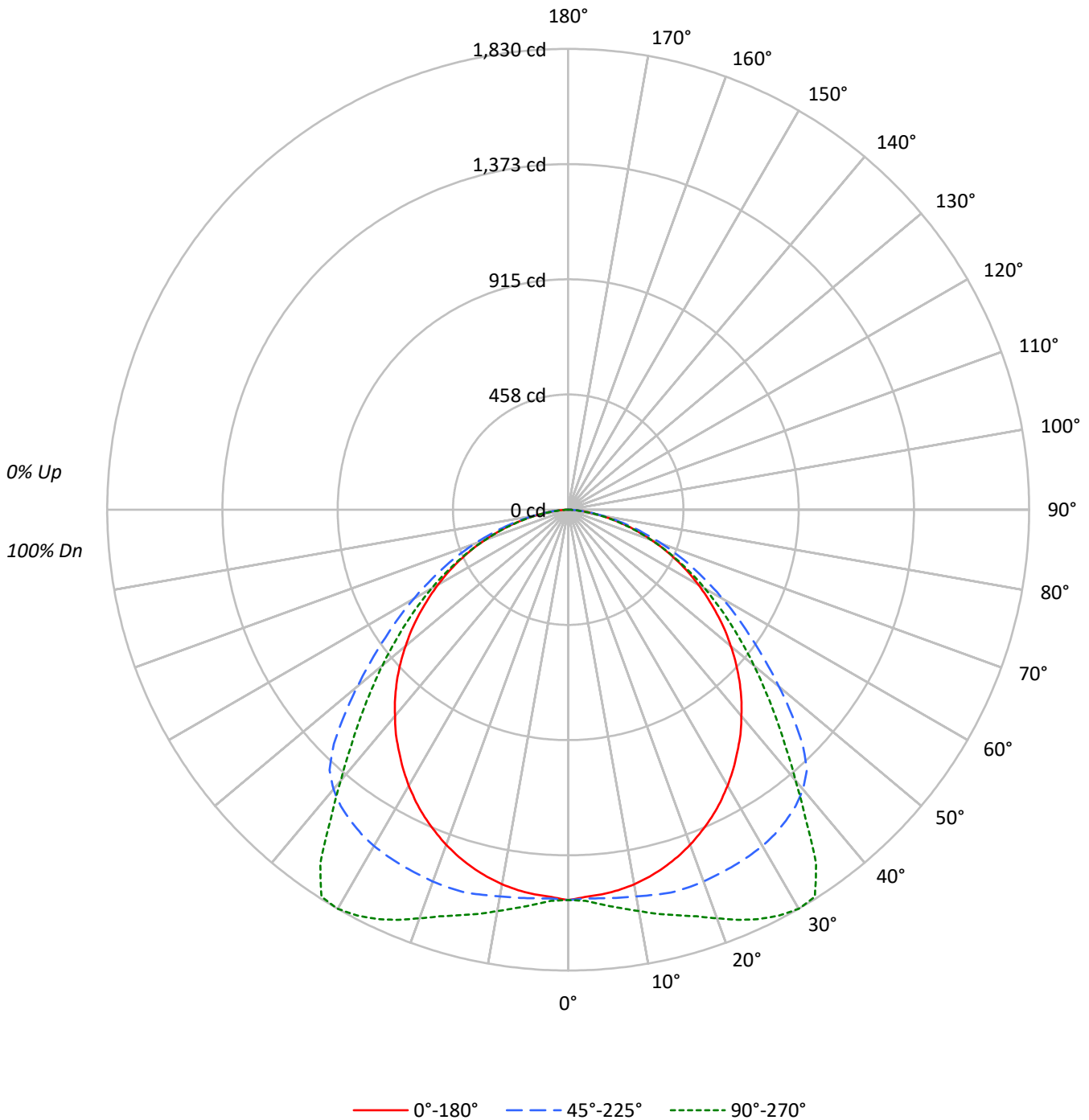
Lumens per Lamp: N/A
Luminaire Lumens: 4710.5 lumens
Efficiency: N/A
Efficacy: 128.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
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

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	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	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85																												
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71																												
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60																												
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52																												
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45																												
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39																												
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35																												
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31																												
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28																												
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13704	13704	13704
5°	13607	13743	13972
10°	13560	13997	14530
15°	13464	14410	15259
20°	13324	14784	16243
25°	13147	15210	17495
30°	12920	15747	18682
35°	12641	16270	18519
40°	12341	16731	16204
45°	12020	16451	14568
50°	11591	15022	13243
55°	11114	13670	12099
60°	10571	12534	11082
65°	9929	11425	10119
70°	9084	10224	9042
75°	8000	8783	7847
80°	6583	7047	6349
85°	4626	4788	4321

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 16451 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.7	3.2
10°-20°	445.7	9.5
20°-30°	725.5	15.4
30°-40°	921.3	19.6
40°-50°	897.7	19.1
50°-60°	736.0	15.6
60°-70°	513.6	10.9
70°-80°	263.6	5.6
80°-90°	58.4	1.2
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°	1319.9	28.0
0°-40°	2241.2	47.6
0°-60°	3874.9	82.3
0°-90°	4710.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4710.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1550	1550	1550	1550	1550	
5°	1533	1556	1548	1559	1574	146
15°	1471	1516	1574	1637	1667	415
25°	1348	1434	1559	1720	1793	620
35°	1171	1285	1507	1726	1716	733
45°	961	1080	1316	1206	1165	741
55°	721	832	887	812	785	645
65°	475	543	546	502	484	470
75°	234	260	257	239	230	249
85°	46	47	47	44	43	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1550.0	1550.0	1550.0	1550.0	1550.0
2.5°	1539.3	1559.1	1545.4	1551.5	1554.5
5°	1533.2	1556.1	1548.5	1559.1	1574.3
7.5°	1524.1	1550.0	1554.5	1575.8	1595.6
10°	1510.4	1540.9	1559.1	1595.6	1618.4
12.5°	1492.2	1530.2	1566.7	1616.9	1644.3
15°	1470.9	1516.5	1574.3	1636.7	1667.1
17.5°	1445.0	1499.8	1574.3	1651.9	1693.0
20°	1416.1	1480.0	1571.3	1671.7	1726.4
22.5°	1382.7	1458.7	1565.2	1694.5	1762.9
25°	1347.7	1434.4	1559.1	1720.3	1793.4
27.5°	1308.1	1405.5	1551.5	1740.1	1816.2
30°	1265.5	1370.5	1542.4	1749.2	1829.9
32.5°	1219.9	1329.4	1527.2	1749.2	1822.3
35°	1171.2	1285.3	1507.4	1726.4	1715.8
37.5°	1124.1	1238.2	1483.1	1615.4	1548.5
40°	1069.3	1188.0	1449.6	1458.7	1404.0
42.5°	1017.6	1134.7	1402.4	1326.4	1277.7
45°	961.3	1080.0	1315.7	1206.2	1165.1
47.5°	903.5	1020.6	1203.2	1098.2	1060.2
50°	842.7	961.3	1092.1	996.3	962.8
52.5°	783.4	897.4	985.7	902.0	870.1
55°	721.0	832.0	886.8	812.3	784.9
57.5°	658.6	765.1	797.0	728.6	702.7
60°	597.8	693.6	708.8	649.5	626.7
62.5°	536.9	619.1	625.2	573.4	553.7
65°	474.6	543.0	546.1	502.0	483.7
67.5°	413.7	470.0	470.0	432.0	416.8
70°	351.4	398.5	395.5	365.1	349.8
72.5°	292.0	325.5	322.5	299.7	289.0
75°	234.2	260.1	257.1	238.8	229.7
77.5°	179.5	197.7	194.7	182.5	174.9
80°	129.3	139.9	138.4	129.3	124.7
82.5°	85.2	91.3	88.2	82.1	79.1
85°	45.6	47.2	47.2	44.1	42.6
87.5°	16.7	16.7	16.7	16.7	15.2
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	20.78	22.38	21.14	22.69	23.01	20.56	22.16	20.93	22.48	22.79
	3H	22.28	23.72	22.66	24.05	24.41	22.03	23.47	22.41	23.80	24.16
	4H	22.78	24.14	23.18	24.49	24.86	22.53	23.88	22.93	24.23	24.61
	6H	23.11	24.36	23.52	24.72	25.11	22.85	24.10	23.26	24.46	24.86
	8H	23.19	24.38	23.61	24.77	25.17	22.92	24.12	23.35	24.51	24.91
	12H	23.23	24.37	23.66	24.75	25.18	22.96	24.10	23.39	24.48	24.91
4H	2H	21.40	22.75	21.80	23.10	23.48	21.23	22.58	21.63	22.93	23.31
	3H	23.13	24.26	23.54	24.66	25.06	22.90	24.03	23.31	24.42	24.82
	4H	23.76	24.77	24.19	25.19	25.63	23.50	24.51	23.93	24.93	25.36
	6H	24.19	25.07	24.64	25.51	25.97	23.91	24.79	24.36	25.24	25.69
	8H	24.30	25.13	24.76	25.57	26.04	24.01	24.84	24.47	25.28	25.75
	12H	24.36	25.11	24.84	25.58	26.05	24.07	24.81	24.55	25.29	25.76
8H	4H	24.00	24.83	24.46	25.27	25.74	23.77	24.60	24.23	25.04	25.50
	6H	24.52	25.21	25.02	25.70	26.17	24.27	24.95	24.76	25.44	25.92
	8H	24.69	25.30	25.20	25.81	26.30	24.42	25.03	24.93	25.54	26.03
	12H	24.80	25.34	25.31	25.83	26.39	24.52	25.06	25.02	25.55	26.11
12H	4H	24.01	24.75	24.49	25.23	25.70	23.79	24.53	24.27	25.00	25.47
	6H	24.55	25.16	25.06	25.67	26.16	24.30	24.92	24.81	25.42	25.91
	8H	24.76	25.30	25.26	25.79	26.35	24.49	25.04	25.00	25.53	26.09