

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: P1439929

Luminaire Tested: S124DR-H675D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439929
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-H675D940-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

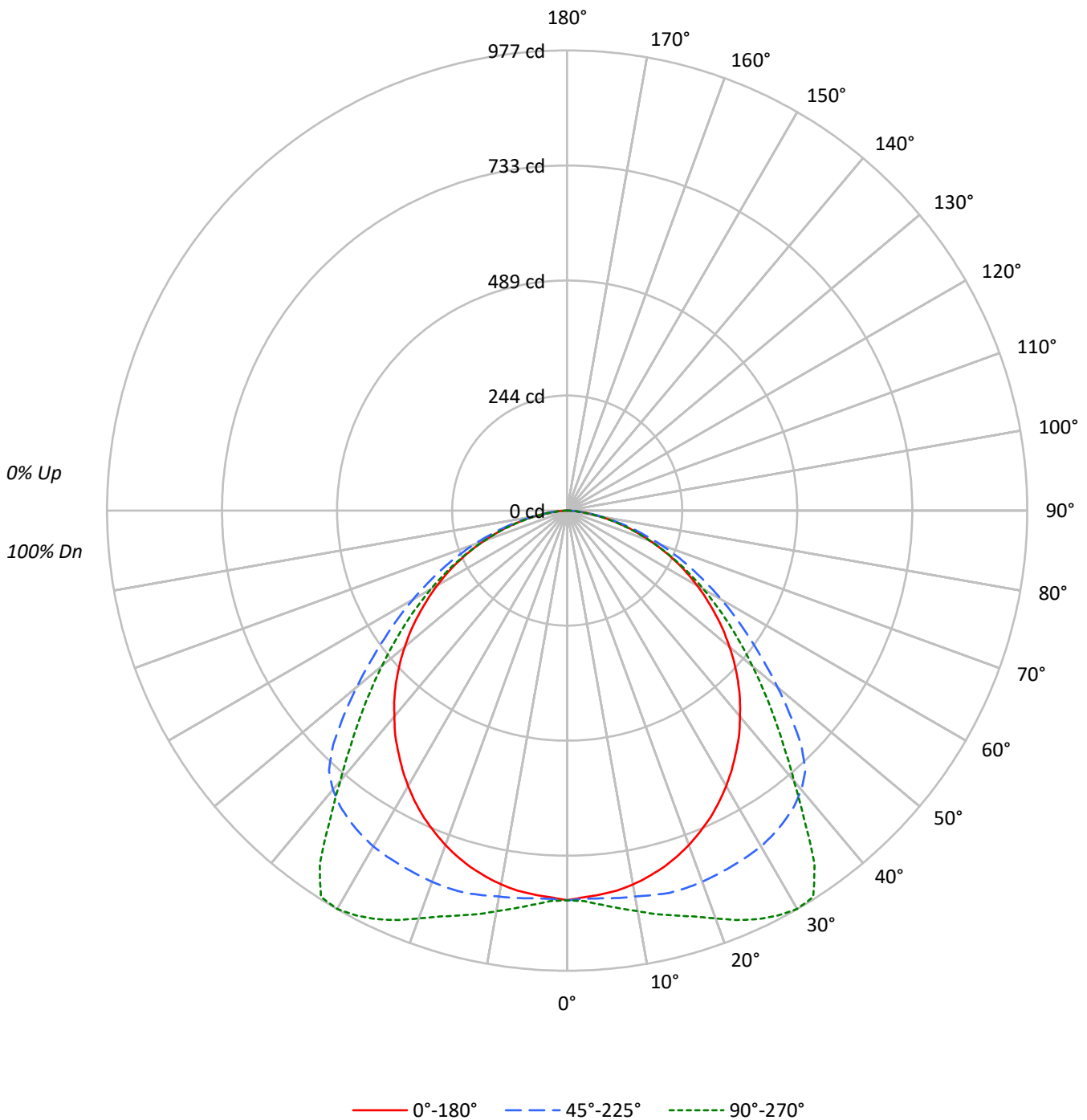
Lumens per Lamp: N/A
Luminaire Lumens: 2514.1 lumens
Efficiency: N/A
Efficacy: 105.6 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85					85			
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71					71			
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60					60			
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52					52			
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45					45			
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39					39			
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35					35			
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28					28			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7314	7314	7314
5°	7263	7334	7457
10°	7237	7470	7755
15°	7185	7691	8145
20°	7111	7890	8669
25°	7017	8117	9337
30°	6895	8404	9970
35°	6747	8683	9883
40°	6587	8930	8648
45°	6416	8780	7776
50°	6187	8018	7069
55°	5931	7296	6457
60°	5641	6689	5915
65°	5299	6096	5402
70°	4847	5457	4826
75°	4270	4687	4188
80°	3513	3763	3391
85°	2475	2556	2303

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 8780 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.4	3.2
10°-20°	237.9	9.5
20°-30°	387.2	15.4
30°-40°	491.7	19.6
40°-50°	479.1	19.1
50°-60°	392.8	15.6
60°-70°	274.1	10.9
70°-80°	140.7	5.6
80°-90°	31.2	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°	704.5	28.0
0°-40°	1196.2	47.6
0°-60°	2068.1	82.3
0°-90°	2514.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2514.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	827	827	827	827	827	
5°	818	830	826	832	840	78
15°	785	809	840	874	890	221
25°	719	766	832	918	957	331
35°	625	686	804	921	916	391
45°	513	576	702	644	622	395
55°	385	444	473	434	419	344
65°	253	290	291	268	258	251
75°	125	139	137	128	123	133
85°	24	25	25	24	23	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	827.3	827.3	827.3	827.3	827.3
2.5°	821.6	832.1	824.8	828.1	829.7
5°	818.3	830.5	826.4	832.1	840.2
7.5°	813.5	827.3	829.7	841.1	851.6
10°	806.1	822.4	832.1	851.6	863.8
12.5°	796.4	816.7	836.2	863.0	877.6
15°	785.0	809.4	840.2	873.5	889.8
17.5°	771.2	800.5	840.2	881.6	903.6
20°	755.8	789.9	838.6	892.2	921.4
22.5°	738.0	778.5	835.4	904.4	940.9
25°	719.3	765.6	832.1	918.2	957.1
27.5°	698.2	750.1	828.1	928.7	969.3
30°	675.4	731.5	823.2	933.6	976.6
32.5°	651.1	709.5	815.1	933.6	972.6
35°	625.1	686.0	804.5	921.4	915.7
37.5°	599.9	660.8	791.5	862.2	826.4
40°	570.7	634.0	773.7	778.5	749.3
42.5°	543.1	605.6	748.5	707.9	681.9
45°	513.1	576.4	702.2	643.8	621.9
47.5°	482.2	544.7	642.2	586.1	565.8
50°	449.8	513.1	582.9	531.7	513.9
52.5°	418.1	479.0	526.1	481.4	464.4
55°	384.8	444.1	473.3	433.5	418.9
57.5°	351.5	408.4	425.4	388.9	375.1
60°	319.0	370.2	378.3	346.7	334.5
62.5°	286.6	330.4	333.7	306.1	295.5
65°	253.3	289.8	291.4	267.9	258.2
67.5°	220.8	250.9	250.9	230.6	222.4
70°	187.5	212.7	211.1	194.8	186.7
72.5°	155.9	173.7	172.1	159.9	154.2
75°	125.0	138.8	137.2	127.5	122.6
77.5°	95.8	105.5	103.9	97.4	93.4
80°	69.0	74.7	73.9	69.0	66.6
82.5°	45.5	48.7	47.1	43.8	42.2
85°	24.4	25.2	25.2	23.5	22.7
87.5°	8.9	8.9	8.9	8.9	8.1
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	18.60	20.20	18.96	20.51	20.83	18.38	19.98	18.75	20.30	20.61
	3H	20.10	21.54	20.48	21.87	22.23	19.85	21.29	20.23	21.62	21.98
	4H	20.60	21.96	21.00	22.30	22.68	20.35	21.70	20.75	22.05	22.43
	6H	20.92	22.18	21.34	22.54	22.93	20.67	21.92	21.08	22.28	22.67
	8H	21.01	22.20	21.43	22.59	22.99	20.74	21.94	21.17	22.33	22.72
	12H	21.05	22.19	21.48	22.57	23.00	20.78	21.92	21.21	22.30	22.73
4H	2H	19.22	20.57	19.62	20.92	21.30	19.05	20.40	19.45	20.75	21.13
	3H	20.95	22.08	21.36	22.47	22.88	20.72	21.84	21.13	22.24	22.64
	4H	21.58	22.59	22.01	23.01	23.44	21.31	22.33	21.75	22.75	23.18
	6H	22.00	22.89	22.46	23.33	23.79	21.73	22.61	22.18	23.05	23.51
	8H	22.12	22.95	22.58	23.39	23.85	21.83	22.66	22.29	23.10	23.57
	12H	22.18	22.92	22.66	23.40	23.87	21.89	22.63	22.37	23.11	23.58
8H	4H	21.82	22.65	22.28	23.09	23.56	21.59	22.41	22.05	22.86	23.32
	6H	22.34	23.03	22.84	23.52	23.99	22.09	22.77	22.58	23.26	23.74
	8H	22.51	23.12	23.02	23.63	24.12	22.24	22.85	22.75	23.36	23.84
	12H	22.62	23.16	23.12	23.65	24.21	22.33	22.88	22.84	23.37	23.93
12H	4H	21.83	22.57	22.31	23.05	23.52	21.60	22.35	22.09	22.82	23.29
	6H	22.36	22.98	22.87	23.49	23.97	22.12	22.73	22.63	23.24	23.73
	8H	22.57	23.12	23.08	23.61	24.17	22.31	22.85	22.82	23.35	23.91