

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: P242626

Luminaire Tested: S124DRP-S1020D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242626  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-S1020D940-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

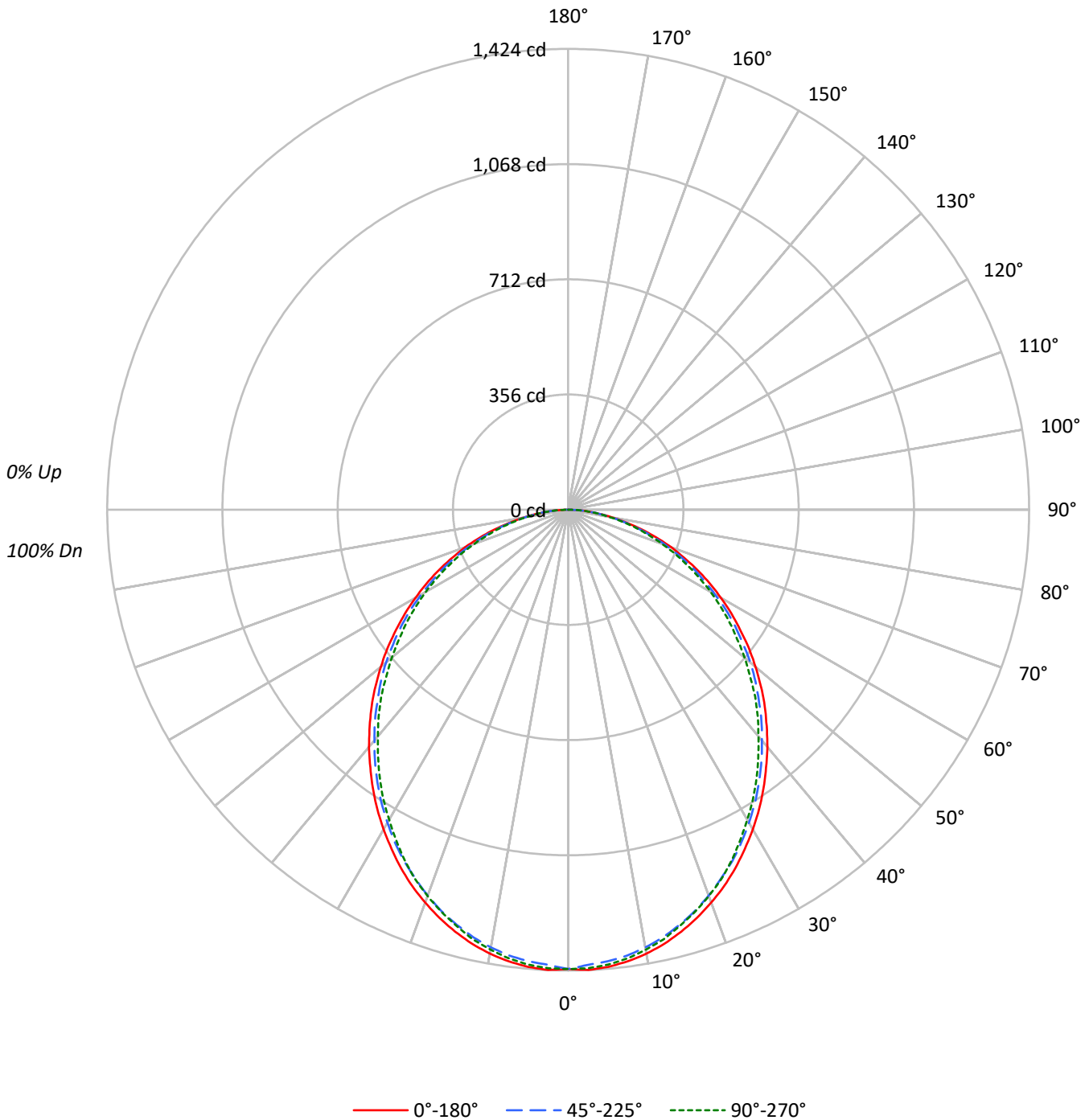
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3642.6 lumens  
Efficiency: N/A  
Efficacy: 104.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29  
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.8  
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									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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84																												
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70																												
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60																												
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51																												
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44																												
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	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	34	46	39	33	45	38	33	43	37	33	31																												
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28																												
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27	25																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	12615	12615	12615
5°	12653	12501	12592
10°	12573	12399	12460
15°	12422	12223	12254
20°	12220	12005	12015
25°	11989	11756	11721
30°	11707	11462	11356
35°	11415	11155	11007
40°	11110	10806	10609
45°	10793	10464	10264
50°	10442	10159	9845
55°	10062	9763	9446
60°	9684	9319	9036
65°	9257	8897	8539
70°	8777	8335	8010
75°	8047	7655	7460
80°	7161	6870	6696
85°	6262	6028	5915

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10793 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.8	3.7
10°-20°	376.9	10.3
20°-30°	554.6	15.2
30°-40°	644.7	17.7
40°-50°	644.7	17.7
50°-60°	563.8	15.5
60°-70°	418.6	11.5
70°-80°	237.5	6.5
80°-90°	68.0	1.9
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°	1065.2	29.2
0°-40°	1710.0	46.9
0°-60°	2918.4	80.1
0°-90°	3642.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3642.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1419	1419	1419	1419	1419	
5°	1418	1414	1401	1414	1411	135
15°	1350	1345	1328	1335	1332	380
25°	1222	1214	1199	1200	1195	563
35°	1052	1044	1028	1020	1014	658
45°	859	851	832	820	816	662
55°	649	646	630	616	610	582
65°	440	434	423	412	406	436
75°	234	229	223	218	217	249
85°	61	61	59	59	58	70
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1419.2	1419.2	1419.2	1419.2	1419.2
2.5°	1423.7	1420.3	1407.8	1419.2	1418.0
5°	1418.0	1413.5	1401.0	1413.5	1411.2
7.5°	1407.8	1403.2	1389.6	1399.8	1398.7
10°	1393.0	1388.5	1373.7	1382.8	1380.5
12.5°	1373.7	1369.1	1353.2	1363.4	1360.0
15°	1349.8	1345.3	1328.2	1335.0	1331.6
17.5°	1322.5	1316.8	1300.9	1305.5	1303.2
20°	1291.8	1286.1	1269.1	1272.5	1270.2
22.5°	1258.8	1250.9	1233.8	1240.6	1236.1
25°	1222.4	1214.5	1198.6	1199.7	1195.1
27.5°	1181.5	1173.5	1158.8	1156.5	1150.8
30°	1140.6	1131.5	1116.7	1112.1	1106.4
32.5°	1097.4	1089.4	1073.5	1067.8	1062.1
35°	1051.9	1043.9	1028.0	1020.0	1014.3
37.5°	1004.1	997.3	980.2	972.3	964.3
40°	957.5	948.4	931.3	920.0	914.3
42.5°	907.4	902.9	883.6	869.9	866.5
45°	858.6	850.6	832.4	819.9	816.5
47.5°	807.4	801.7	784.6	771.0	761.9
50°	755.1	750.5	734.6	718.7	711.9
52.5°	703.9	698.2	681.2	667.5	658.4
55°	649.3	645.9	630.0	616.3	609.5
57.5°	598.1	594.7	578.8	565.2	558.3
60°	544.7	539.0	524.2	514.0	508.3
62.5°	492.4	487.8	471.9	462.8	457.1
65°	440.1	434.4	423.0	411.6	406.0
67.5°	386.6	382.1	370.7	359.3	358.2
70°	337.7	329.8	320.7	311.6	308.2
72.5°	285.4	277.5	270.6	263.8	260.4
75°	234.3	228.6	222.9	218.3	217.2
77.5°	184.2	181.9	176.3	175.1	171.7
80°	139.9	136.5	134.2	131.9	130.8
82.5°	96.7	95.5	95.5	94.4	93.2
85°	61.4	61.4	59.1	59.1	58.0
87.5°	29.6	28.4	27.3	27.3	27.3
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	20.11	21.72	20.47	22.03	22.35	19.73	21.34	20.10	21.66	21.97
	3H	21.87	23.32	22.24	23.65	24.01	21.44	22.90	21.82	23.23	23.59
	4H	22.52	23.89	22.92	24.24	24.62	22.09	23.46	22.48	23.81	24.18
	6H	22.99	24.27	23.41	24.63	25.02	22.56	23.83	22.97	24.20	24.59
	8H	23.15	24.36	23.57	24.75	25.15	22.72	23.93	23.14	24.32	24.72
	12H	23.25	24.41	23.68	24.80	25.22	22.83	23.99	23.26	24.37	24.80
4H	2H	20.68	22.05	21.07	22.40	22.77	20.38	21.75	20.78	22.10	22.48
	3H	22.66	23.81	23.07	24.20	24.60	22.31	23.46	22.72	23.85	24.25
	4H	23.44	24.48	23.87	24.89	25.33	23.08	24.12	23.51	24.53	24.96
	6H	24.04	24.95	24.50	25.39	25.85	23.68	24.59	24.13	25.03	25.48
	8H	24.24	25.09	24.70	25.53	26.00	23.88	24.73	24.34	25.18	25.64
	12H	24.39	25.16	24.87	25.63	26.10	24.04	24.80	24.52	25.28	25.75
8H	4H	23.72	24.57	24.18	25.01	25.47	23.39	24.24	23.85	24.69	25.15
	6H	24.44	25.14	24.93	25.63	26.11	24.12	24.83	24.61	25.31	25.79
	8H	24.71	25.34	25.22	25.85	26.34	24.40	25.03	24.91	25.54	26.03
	12H	24.94	25.50	25.44	25.99	26.55	24.63	25.19	25.14	25.68	26.24
12H	4H	23.74	24.51	24.22	24.98	25.45	23.43	24.19	23.91	24.67	25.14
	6H	24.49	25.12	25.00	25.63	26.11	24.18	24.81	24.69	25.32	25.81
	8H	24.81	25.38	25.32	25.87	26.43	24.52	25.08	25.02	25.57	26.13