

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: P243482

Luminaire Tested: S124DRP-H1195D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243482  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-84)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-H1195D935-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

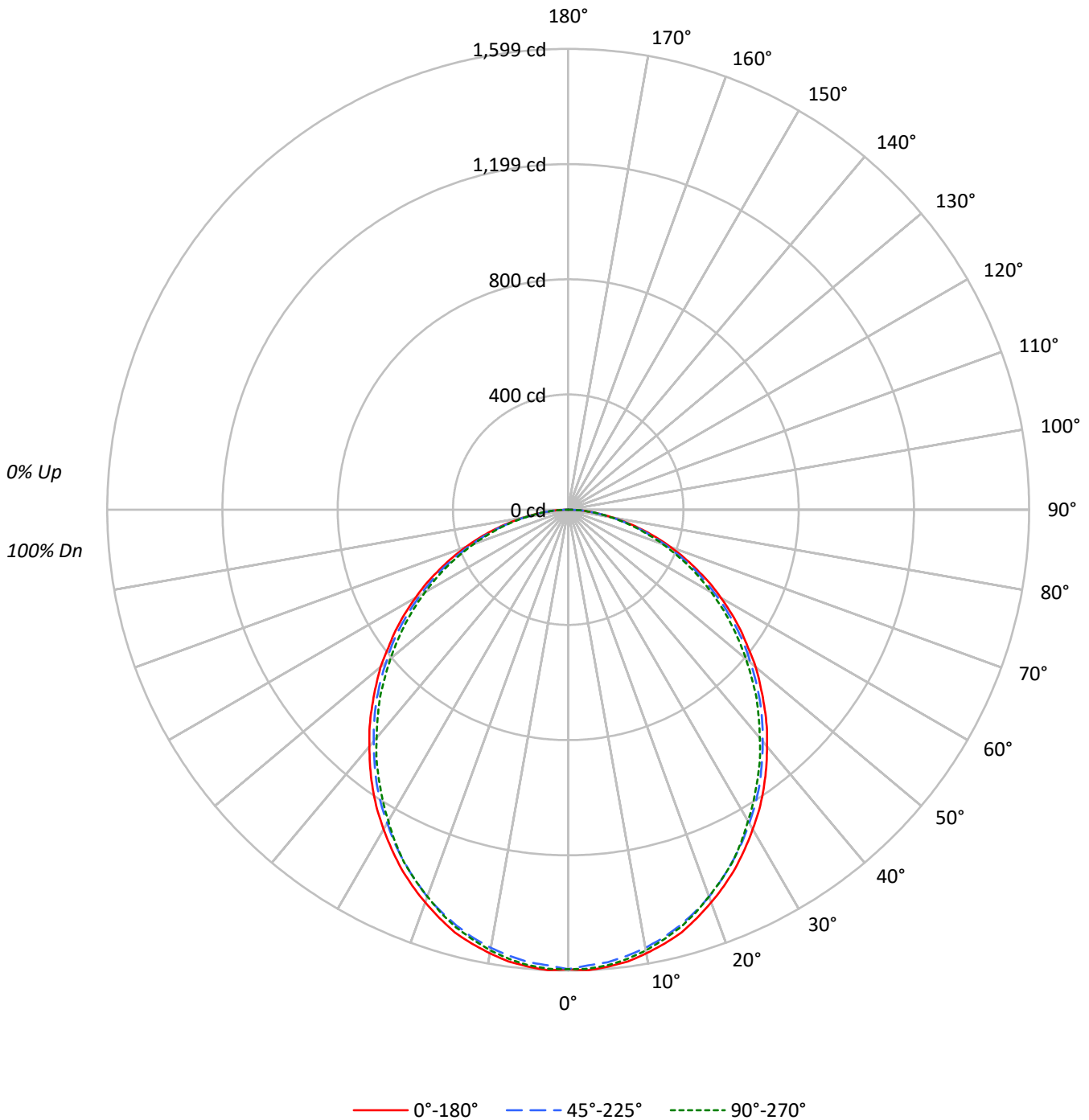
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4103.9 lumens  
Efficiency: N/A  
Efficacy: 108.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 37.7  
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	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	46	41	52	46	41	39
7	66	52	44	38	64	51	43	37	50	43	37	48	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	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	27	39	32	27	38	32	27	37	31	27	25

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

	0°	45°	90°
0°	14171	14171	14171
5°	14202	14062	14155
10°	14108	13933	14015
15°	13978	13751	13811
20°	13718	13521	13509
25°	13460	13218	13231
30°	13141	12888	12807
35°	12823	12569	12415
40°	12447	12177	11996
45°	12083	11838	11610
50°	11749	11409	11121
55°	11318	11016	10675
60°	10884	10516	10192
65°	10367	10012	9686
70°	9811	9372	9068
75°	9043	8686	8421
80°	7970	7837	7637
85°	7007	7007	6884

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12083 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.3	3.7
10°-20°	423.7	10.3
20°-30°	624.1	15.2
30°-40°	726.1	17.7
40°-50°	726.4	17.7
50°-60°	635.3	15.5
60°-70°	471.8	11.5
70°-80°	268.8	6.6
80°-90°	77.5	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°	1198.1	29.2
0°-40°	1924.2	46.9
0°-60°	3285.8	80.1
0°-90°	4103.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4103.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1594	1594	1594	1594	1594	
5°	1592	1589	1576	1588	1586	151
15°	1519	1511	1494	1503	1501	427
25°	1372	1366	1348	1352	1349	631
35°	1182	1171	1158	1148	1144	739
45°	961	957	942	927	924	742
55°	730	725	711	695	689	653
65°	493	489	476	466	460	489
75°	263	258	253	248	245	279
85°	69	68	69	66	68	79
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1594.2	1594.2	1594.2	1594.2	1594.2
2.5°	1599.4	1595.5	1582.5	1595.5	1594.2
5°	1591.6	1589.0	1576.0	1587.7	1586.4
7.5°	1581.2	1576.0	1561.7	1573.4	1572.1
10°	1563.0	1559.1	1543.6	1555.3	1552.7
12.5°	1542.3	1538.4	1521.5	1530.6	1528.0
15°	1518.9	1511.1	1494.3	1503.4	1500.8
17.5°	1485.2	1480.0	1463.2	1470.9	1467.0
20°	1450.2	1443.7	1429.4	1430.7	1428.1
22.5°	1412.6	1406.1	1389.2	1394.4	1389.2
25°	1372.4	1365.9	1347.7	1351.6	1349.0
27.5°	1327.0	1320.5	1303.6	1304.9	1299.7
30°	1280.3	1272.5	1255.6	1254.3	1247.8
32.5°	1233.6	1225.8	1208.9	1203.7	1197.2
35°	1181.7	1171.3	1158.3	1148.0	1144.1
37.5°	1128.5	1123.3	1103.9	1097.4	1092.2
40°	1072.7	1067.5	1049.4	1040.3	1033.8
42.5°	1019.5	1013.1	996.2	983.2	978.0
45°	961.2	957.3	941.7	927.4	923.6
47.5°	904.1	902.8	883.3	869.1	862.6
50°	849.6	841.8	825.0	812.0	804.2
52.5°	786.1	784.8	770.5	753.6	747.1
55°	730.3	725.1	710.8	695.3	688.8
57.5°	671.9	669.3	651.2	638.2	631.7
60°	612.2	607.1	591.5	579.8	573.3
62.5°	555.2	548.7	534.4	522.7	516.3
65°	492.9	489.0	476.0	465.7	460.5
67.5°	434.5	429.3	416.4	407.3	402.1
70°	377.5	369.7	360.6	352.8	348.9
72.5°	320.4	313.9	306.1	300.9	295.7
75°	263.3	258.1	252.9	247.8	245.2
77.5°	208.8	203.6	201.1	199.8	197.2
80°	155.7	153.1	153.1	151.8	149.2
82.5°	110.3	107.7	107.7	107.7	106.4
85°	68.7	67.5	68.7	66.2	67.5
87.5°	32.4	32.4	33.7	32.4	33.7
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	20.51	22.12	20.87	22.44	22.75	20.16	21.78	20.53	22.09	22.40
	3H	22.26	23.72	22.64	24.05	24.41	21.87	23.33	22.25	23.66	24.02
	4H	22.92	24.29	23.32	24.64	25.02	22.52	23.90	22.92	24.24	24.62
	6H	23.39	24.67	23.80	25.03	25.42	23.01	24.28	23.42	24.65	25.04
	8H	23.55	24.76	23.97	25.15	25.55	23.17	24.39	23.60	24.78	25.18
	12H	23.65	24.82	24.08	25.20	25.63	23.29	24.45	23.71	24.83	25.26
4H	2H	21.08	22.46	21.48	22.80	23.18	20.81	22.18	21.20	22.53	22.90
	3H	23.06	24.21	23.46	24.60	25.00	22.74	23.89	23.15	24.29	24.69
	4H	23.84	24.88	24.27	25.30	25.73	23.51	24.55	23.94	24.97	25.40
	6H	24.44	25.35	24.90	25.79	26.25	24.13	25.04	24.58	25.48	25.94
	8H	24.64	25.49	25.10	25.94	26.40	24.34	25.19	24.80	25.63	26.10
	12H	24.79	25.56	25.27	26.03	26.50	24.50	25.26	24.98	25.74	26.21
8H	4H	24.12	24.97	24.58	25.42	25.88	23.83	24.68	24.29	25.13	25.59
	6H	24.84	25.55	25.34	26.04	26.51	24.58	25.28	25.07	25.77	26.25
	8H	25.12	25.75	25.63	26.26	26.74	24.86	25.50	25.37	26.00	26.49
	12H	25.34	25.90	25.85	26.39	26.96	25.10	25.66	25.60	26.15	26.71
12H	4H	24.15	24.92	24.63	25.39	25.86	23.87	24.63	24.35	25.11	25.58
	6H	24.89	25.53	25.40	26.04	26.52	24.63	25.27	25.14	25.78	26.26
	8H	25.22	25.79	25.73	26.28	26.84	24.98	25.54	25.49	26.03	26.59