

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: P243575

Luminaire Tested: S124RDRP-H1195D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243575  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-65)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDRP-H1195D840-X4F0-XX-UDD-F-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

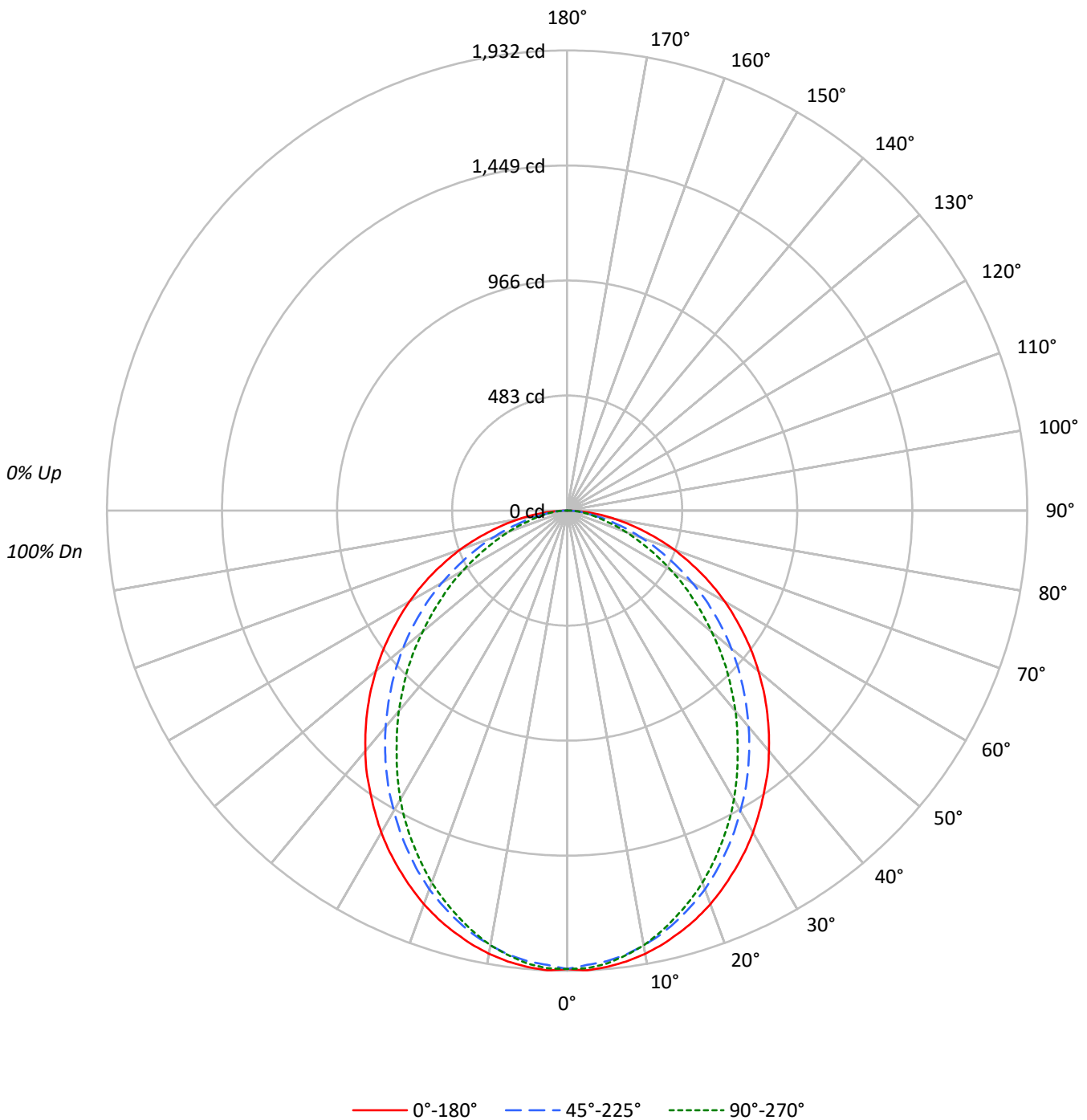
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4538.8 lumens  
Efficiency: N/A  
Efficacy: 120.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.1 / 1.25  
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																		
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	96	98	95	93	95	92	90	91	89	87	85																												
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72																												
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61																												
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41																												
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	36																												
8	62	49	41	35	61	49	41	35	47	40	35	46	39	35	45	39	34	33																												
9	58	45	37	32	57	45	37	32	44	37	32	42	36	31	41	36	31	30																												
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27																												

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

	0°	45°	90°
0°	17109	17109	17109
5°	17161	16946	17035
10°	17053	16732	16732
15°	16863	16405	16249
20°	16635	16003	15721
25°	16328	15492	15075
30°	16023	14930	14376
35°	15645	14381	13549
40°	15296	13763	12758
45°	14910	13106	11928
50°	14497	12435	10961
55°	14045	11668	9994
60°	13611	10784	8990
65°	13026	9740	7858
70°	12405	8603	6830
75°	11464	7171	5560
80°	10473	5600	5088
85°	9271	5365	5069

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14910 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	181.0	4.0
10°-20°	505.5	11.1
20°-30°	733.1	16.2
30°-40°	835.5	18.4
40°-50°	812.9	17.9
50°-60°	682.9	15.0
60°-70°	475.8	10.5
70°-80°	245.7	5.4
80°-90°	66.4	1.5
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°	1419.6	31.3
0°-40°	2255.1	49.7
0°-60°	3750.9	82.6
0°-90°	4538.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4538.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1925	1925	1925	1925	1925	
5°	1923	1918	1899	1913	1909	182
15°	1832	1818	1783	1780	1766	517
25°	1665	1634	1580	1557	1537	767
35°	1442	1398	1325	1276	1249	903
45°	1186	1129	1043	976	949	915
55°	906	848	753	676	645	811
65°	619	560	463	396	374	613
75°	334	283	209	175	162	355
85°	91	58	53	50	50	104
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1924.8	1924.8	1924.8	1924.8	1924.8
2.5°	1931.9	1926.2	1909.1	1924.8	1923.3
5°	1923.3	1917.7	1899.2	1913.4	1909.1
7.5°	1909.1	1902.0	1880.7	1890.7	1883.6
10°	1889.3	1882.2	1853.7	1860.8	1853.7
12.5°	1863.7	1853.7	1822.5	1823.9	1812.5
15°	1832.4	1818.2	1782.7	1779.9	1765.7
17.5°	1798.3	1779.9	1738.7	1731.6	1716.0
20°	1758.6	1735.8	1691.8	1676.2	1662.0
22.5°	1713.1	1686.1	1637.8	1619.4	1600.9
25°	1664.8	1633.6	1579.6	1556.9	1537.0
27.5°	1615.1	1578.2	1519.9	1491.5	1471.6
30°	1561.1	1518.5	1454.6	1421.9	1400.6
32.5°	1501.5	1458.8	1392.1	1352.3	1325.3
35°	1441.8	1397.8	1325.3	1275.6	1248.6
37.5°	1383.6	1333.8	1255.7	1204.6	1173.3
40°	1318.2	1265.7	1186.1	1127.9	1099.5
42.5°	1252.9	1198.9	1113.7	1052.6	1021.3
45°	1186.1	1129.3	1042.6	975.9	948.9
47.5°	1117.9	1061.1	971.6	902.0	870.8
50°	1048.3	991.5	899.2	822.5	792.6
52.5°	980.1	920.5	828.1	750.0	718.8
55°	906.3	848.0	752.9	676.2	644.9
57.5°	835.2	774.2	681.8	603.7	578.1
60°	765.6	704.6	606.6	531.3	505.7
62.5°	691.8	630.7	534.1	461.7	438.9
65°	619.3	559.7	463.1	396.3	373.6
67.5°	545.5	491.5	397.7	333.8	315.3
70°	477.3	416.2	331.0	275.6	262.8
72.5°	404.8	350.9	268.5	223.0	213.1
75°	333.8	282.7	208.8	174.7	161.9
77.5°	268.5	218.8	157.7	129.3	129.3
80°	204.6	160.5	109.4	102.3	99.4
82.5°	144.9	103.7	81.0	75.3	73.9
85°	90.9	58.2	52.6	49.7	49.7
87.5°	44.0	27.0	27.0	25.6	25.6
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	21.32	22.89	21.68	23.21	23.52	19.42	21.00	19.78	21.31	21.62
	3H	23.13	24.55	23.51	24.88	25.24	20.68	22.10	21.06	22.43	22.79
	4H	23.82	25.15	24.22	25.50	25.87	21.08	22.41	21.48	22.76	23.14
	6H	24.33	25.56	24.74	25.93	26.32	21.36	22.59	21.77	22.96	23.35
	8H	24.50	25.68	24.93	26.07	26.47	21.46	22.63	21.88	23.02	23.42
	12H	24.62	25.75	25.05	26.13	26.56	21.54	22.66	21.97	23.05	23.48
4H	2H	21.67	23.00	22.07	23.35	23.73	20.12	21.46	20.52	21.80	22.18
	3H	23.69	24.80	24.10	25.20	25.60	21.57	22.68	21.98	23.08	23.48
	4H	24.50	25.50	24.93	25.91	26.35	22.05	23.05	22.48	23.47	23.91
	6H	25.14	26.01	25.59	26.45	26.91	22.42	23.29	22.87	23.73	24.19
	8H	25.36	26.17	25.82	26.62	27.08	22.55	23.37	23.02	23.81	24.28
	12H	25.52	26.25	26.00	26.73	27.20	22.67	23.40	23.15	23.88	24.35
8H	4H	24.60	25.42	25.07	25.86	26.33	22.38	23.20	22.85	23.64	24.11
	6H	25.33	26.01	25.82	26.49	26.97	22.84	23.51	23.33	24.00	24.48
	8H	25.60	26.21	26.11	26.72	27.20	23.03	23.64	23.54	24.14	24.63
	12H	25.83	26.37	26.34	26.86	27.42	23.21	23.75	23.72	24.24	24.80
12H	4H	24.60	25.33	25.08	25.80	26.27	22.43	23.16	22.91	23.64	24.11
	6H	25.32	25.93	25.83	26.44	26.92	22.90	23.51	23.41	24.01	24.50
	8H	25.64	26.17	26.15	26.67	27.23	23.15	23.68	23.65	24.17	24.74