

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: P243580

Luminaire Tested: S124RDRP-H1195D930-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243580  
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-H1195D930-X4F0-XX-UDD-F-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

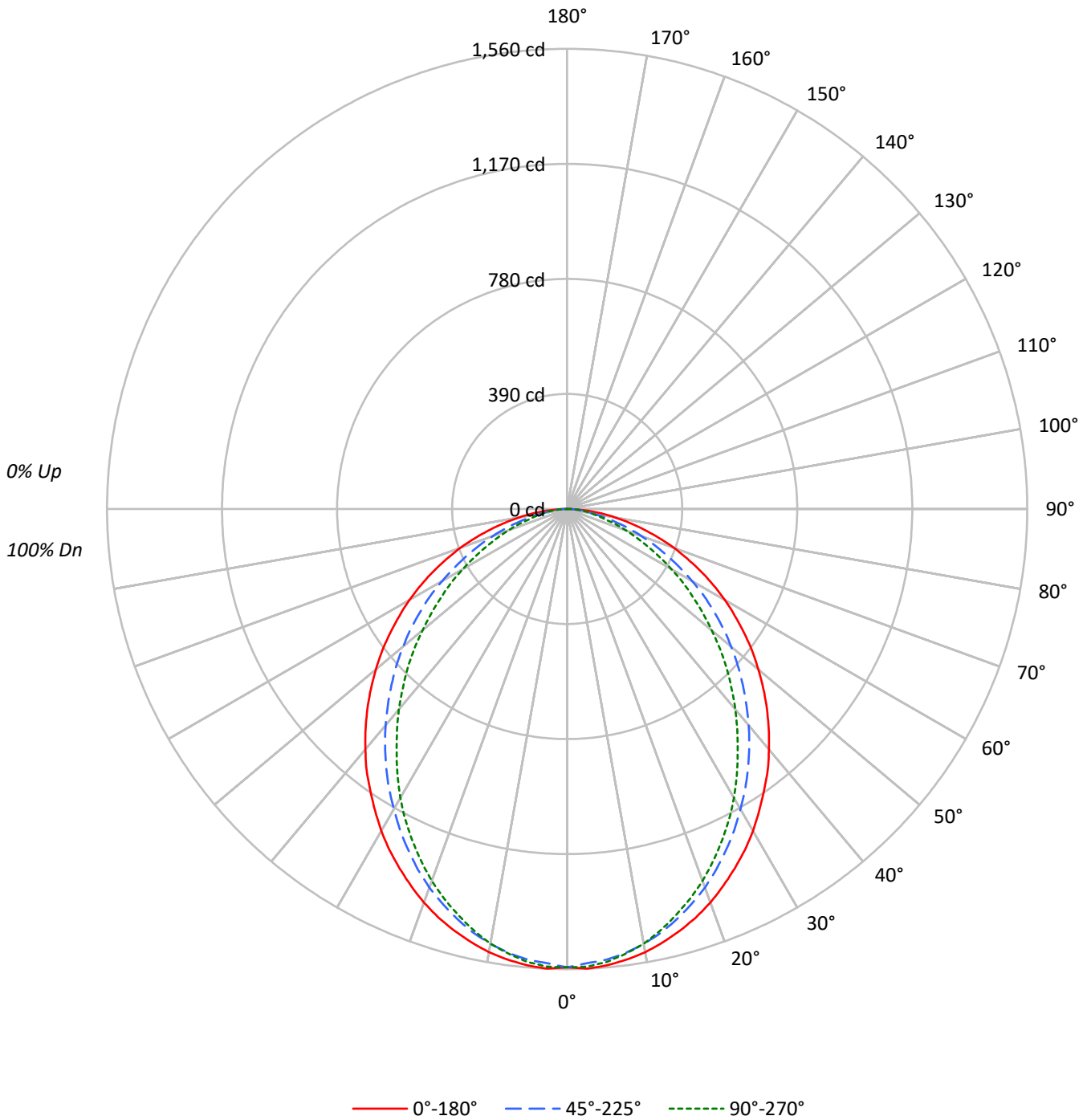
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3664.3 lumens  
Efficiency: N/A  
Efficacy: 97.2 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 (A<sub>in</sub>): 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	96	98	95	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61					61			
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	36					36			
8	62	49	41	35	61	49	41	35	47	40	35	46	39	35	45	39	34	33					33			
9	58	45	37	32	57	45	37	32	44	37	32	42	36	31	41	36	31	30					30			
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27					27			

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

	0°	45°	90°
0°	13812	13812	13812
5°	13855	13681	13753
10°	13767	13508	13508
15°	13614	13245	13118
20°	13430	12921	12693
25°	13183	12508	12171
30°	12936	12053	11607
35°	12631	11611	10938
40°	12349	11112	10299
45°	12038	10582	9631
50°	11703	10038	8849
55°	11339	9419	8069
60°	10988	8706	7259
65°	10516	7864	6344
70°	10014	6944	5515
75°	9256	5790	4489
80°	8451	4520	4110
85°	7486	4324	4090

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12038 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	146.1	4.0
10°-20°	408.1	11.1
20°-30°	591.8	16.2
30°-40°	674.6	18.4
40°-50°	656.3	17.9
50°-60°	551.3	15.0
60°-70°	384.1	10.5
70°-80°	198.3	5.4
80°-90°	53.6	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°	1146.1	31.3
0°-40°	1820.6	49.7
0°-60°	3028.3	82.6
0°-90°	3664.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3664.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1554	1554	1554	1554	1554	
5°	1553	1548	1533	1545	1541	147
15°	1479	1468	1439	1437	1426	417
25°	1344	1319	1275	1257	1241	619
35°	1164	1128	1070	1030	1008	729
45°	958	912	842	788	766	739
55°	732	685	608	546	521	655
65°	500	452	374	320	302	495
75°	270	228	169	141	131	287
85°	73	47	42	40	40	84
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1553.9	1553.9	1553.9	1553.9	1553.9
2.5°	1559.7	1555.1	1541.3	1553.9	1552.8
5°	1552.8	1548.2	1533.3	1544.8	1541.3
7.5°	1541.3	1535.6	1518.4	1526.4	1520.7
10°	1525.3	1519.5	1496.6	1502.3	1496.6
12.5°	1504.6	1496.6	1471.4	1472.5	1463.3
15°	1479.4	1467.9	1439.3	1437.0	1425.5
17.5°	1451.9	1437.0	1403.7	1398.0	1385.4
20°	1419.8	1401.4	1365.9	1353.2	1341.8
22.5°	1383.1	1361.3	1322.3	1307.4	1292.5
25°	1344.1	1318.8	1275.3	1256.9	1240.9
27.5°	1303.9	1274.1	1227.1	1204.2	1188.1
30°	1260.3	1225.9	1174.3	1148.0	1130.8
32.5°	1212.2	1177.8	1123.9	1091.8	1070.0
35°	1164.0	1128.5	1070.0	1029.8	1008.0
37.5°	1117.0	1076.9	1013.8	972.5	947.3
40°	1064.2	1021.8	957.6	910.6	887.6
42.5°	1011.5	967.9	899.1	849.8	824.6
45°	957.6	911.7	841.8	787.9	766.1
47.5°	902.5	856.7	784.4	728.2	703.0
50°	846.3	800.5	725.9	664.0	639.9
52.5°	791.3	743.1	668.6	605.5	580.3
55°	731.7	684.6	607.8	545.9	520.7
57.5°	674.3	625.0	550.5	487.4	466.8
60°	618.1	568.8	489.7	428.9	408.3
62.5°	558.5	509.2	431.2	372.7	354.4
65°	500.0	451.8	373.9	320.0	301.6
67.5°	440.4	396.8	321.1	269.5	254.6
70°	385.3	336.0	267.2	222.5	212.2
72.5°	326.8	283.3	216.7	180.0	172.0
75°	269.5	228.2	168.6	141.1	130.7
77.5°	216.7	176.6	127.3	104.4	104.4
80°	165.1	129.6	88.3	82.6	80.3
82.5°	117.0	83.7	65.4	60.8	59.6
85°	73.4	47.0	42.4	40.1	40.1
87.5°	35.6	21.8	21.8	20.6	20.6
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	20.57	22.15	20.94	22.46	22.78	18.68	20.25	19.04	20.57	20.88
	3H	22.39	23.81	22.77	24.13	24.50	19.94	21.36	20.32	21.69	22.05
	4H	23.07	24.41	23.47	24.75	25.13	20.34	21.67	20.73	22.02	22.39
	6H	23.59	24.82	24.00	25.18	25.58	20.61	21.85	21.03	22.21	22.60
	8H	23.76	24.93	24.18	25.32	25.72	20.72	21.89	21.14	22.28	22.68
	12H	23.87	25.00	24.30	25.38	25.81	20.79	21.92	21.22	22.30	22.73
4H	2H	20.93	22.26	21.32	22.61	22.98	19.38	20.71	19.78	21.06	21.44
	3H	22.94	24.06	23.35	24.45	24.85	20.83	21.94	21.24	22.34	22.74
	4H	23.75	24.76	24.19	25.17	25.61	21.31	22.31	21.74	22.73	23.16
	6H	24.40	25.27	24.85	25.71	26.17	21.67	22.55	22.13	22.99	23.45
	8H	24.61	25.43	25.07	25.87	26.34	21.81	22.63	22.27	23.07	23.54
	12H	24.78	25.51	25.26	25.99	26.46	21.93	22.66	22.41	23.14	23.61
8H	4H	23.86	24.68	24.32	25.12	25.59	21.64	22.46	22.10	22.90	23.37
	6H	24.58	25.26	25.08	25.75	26.23	22.09	22.77	22.59	23.26	23.73
	8H	24.86	25.46	25.37	25.97	26.46	22.29	22.89	22.80	23.40	23.89
	12H	25.09	25.62	25.59	26.11	26.68	22.47	23.01	22.98	23.50	24.06
12H	4H	23.85	24.58	24.33	25.06	25.53	21.69	22.42	22.17	22.89	23.36
	6H	24.58	25.19	25.09	25.69	26.18	22.15	22.76	22.67	23.27	23.76
	8H	24.89	25.43	25.40	25.92	26.48	22.40	22.94	22.91	23.43	23.99