

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: P242705

Luminaire Tested: S124RDRP-S1020D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242705  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-26)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDRP-S1020D830-X4F0-XX-UDD-F-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

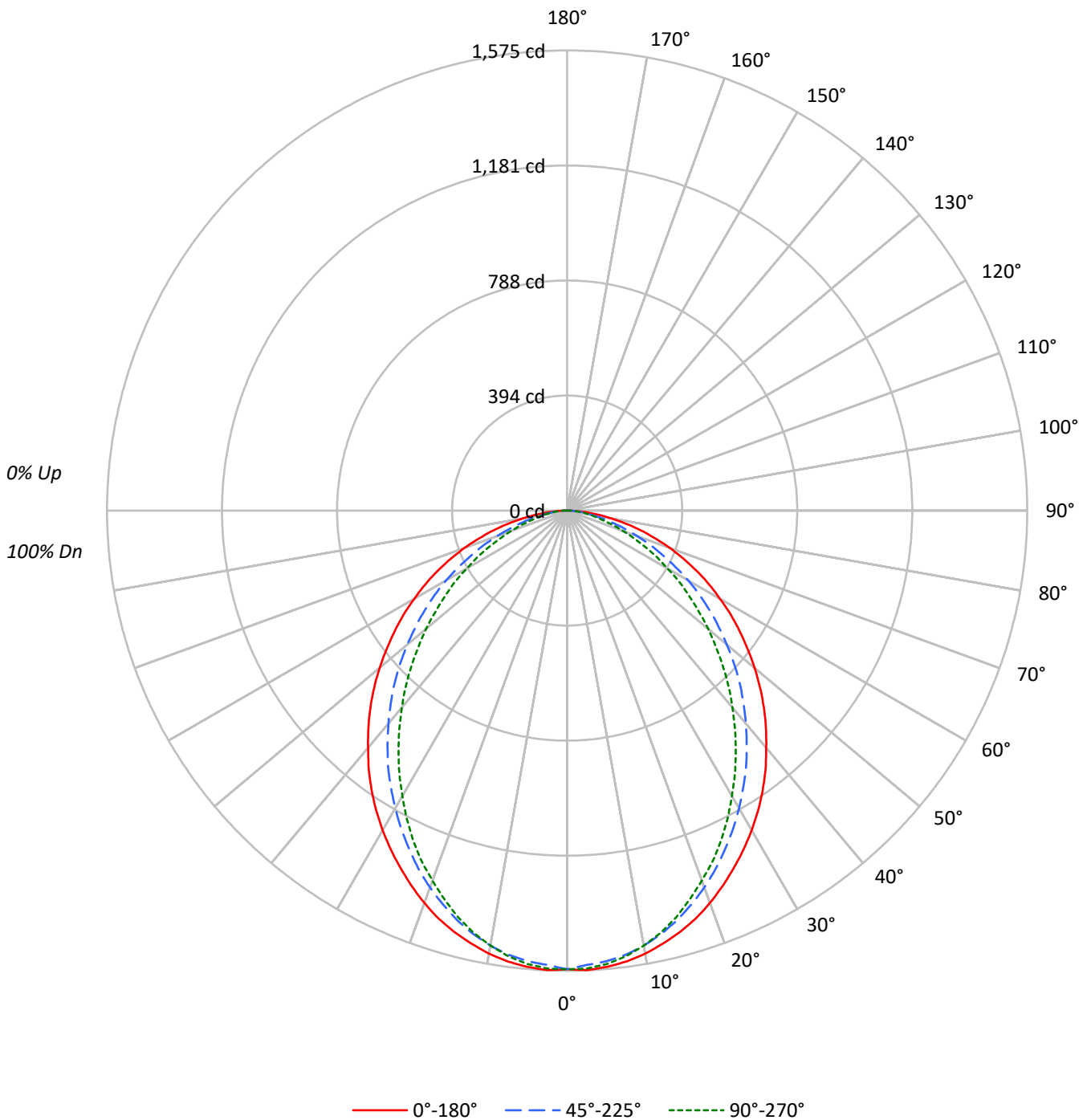
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3627.2 lumens  
Efficiency: N/A  
Efficacy: 104.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85					85			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	54					54			
5	78	66	57	51	76	65	56	50	62	55	50	61	54	49	59	53	49	47					47			
6	72	59	51	45	70	58	50	44	57	49	44	55	49	44	53	48	43	41					41			
7	67	54	46	40	65	53	45	40	52	45	39	50	44	39	49	43	39	37					37			
8	63	50	41	36	61	49	41	36	48	40	35	46	40	35	45	39	35	33					33			
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30					30			
10	55	42	35	29	54	42	34	29	41	34	29	40	33	29	39	33	29	27					27			

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

	0°	45°	90°
0°	13954	13954	13954
5°	13986	13813	13900
10°	13897	13648	13648
15°	13738	13362	13263
20°	13518	12985	12746
25°	13239	12543	12224
30°	12967	12078	11573
35°	12665	11596	10918
40°	12301	11047	10209
45°	11967	10502	9488
50°	11586	9874	8726
55°	11177	9221	7897
60°	10727	8505	7052
65°	10315	7610	6219
70°	9715	6622	5278
75°	8957	5492	4293
80°	7817	4182	3936
85°	6619	3804	3559

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11967 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	147.6	4.1
10°-20°	411.6	11.3
20°-30°	594.2	16.4
30°-40°	673.4	18.6
40°-50°	650.2	17.9
50°-60°	540.6	14.9
60°-70°	373.1	10.3
70°-80°	188.5	5.2
80°-90°	47.9	1.3
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°	1153.4	31.8
0°-40°	1826.8	50.4
0°-60°	3017.6	83.2
0°-90°	3627.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3627.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1570	1570	1570	1570	1570	
5°	1567	1563	1548	1560	1558	149
15°	1493	1482	1452	1450	1441	421
25°	1350	1328	1279	1258	1246	622
35°	1167	1129	1069	1028	1006	729
45°	952	908	835	776	755	734
55°	721	673	595	532	510	645
65°	490	439	362	310	296	484
75°	261	216	160	132	125	275
85°	65	41	37	35	35	75
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1569.8	1569.8	1569.8	1569.8	1569.8
2.5°	1574.6	1569.8	1556.6	1569.8	1568.6
5°	1567.4	1562.6	1548.1	1560.2	1557.8
7.5°	1556.6	1551.7	1533.7	1542.1	1538.5
10°	1539.7	1533.7	1512.1	1516.9	1512.1
12.5°	1518.1	1510.9	1484.4	1486.8	1479.6
15°	1492.9	1482.0	1452.0	1449.6	1441.2
17.5°	1464.0	1448.4	1413.5	1407.5	1395.5
20°	1429.1	1413.5	1372.7	1363.0	1347.4
22.5°	1390.7	1372.7	1328.2	1312.6	1300.5
25°	1349.8	1328.2	1278.9	1258.5	1246.4
27.5°	1307.7	1281.3	1229.6	1205.6	1188.8
30°	1263.3	1233.2	1176.7	1146.7	1127.5
32.5°	1216.4	1181.5	1122.6	1086.6	1068.6
35°	1167.1	1128.7	1068.6	1027.7	1006.1
37.5°	1115.4	1075.8	1009.7	965.2	943.5
40°	1060.1	1020.5	952.0	901.5	879.8
42.5°	1007.3	965.2	893.1	841.4	818.5
45°	952.0	907.5	835.4	776.5	754.8
47.5°	895.5	849.8	775.3	714.0	689.9
50°	837.8	790.9	714.0	653.9	631.0
52.5°	778.9	733.2	653.9	592.6	568.5
55°	721.2	673.1	595.0	532.5	509.6
57.5°	664.7	614.2	537.3	473.6	456.7
60°	603.4	555.3	478.4	415.9	396.7
62.5°	548.1	497.6	418.3	361.8	347.4
65°	490.4	438.7	361.8	310.1	295.7
67.5°	430.3	381.0	308.9	263.2	246.4
70°	373.8	323.3	254.8	215.2	203.1
72.5°	313.7	269.2	205.5	173.1	162.3
75°	260.8	216.4	159.9	132.2	125.0
77.5°	205.5	167.1	119.0	99.8	97.4
80°	152.7	117.8	81.7	78.1	76.9
82.5°	107.0	75.7	58.9	56.5	55.3
85°	64.9	40.9	37.3	34.9	34.9
87.5°	27.6	18.0	16.8	15.6	16.8
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	20.50	22.07	20.87	22.38	22.69	18.53	20.10	18.90	20.41	20.73
	3H	22.27	23.68	22.65	24.01	24.37	19.78	21.19	20.16	21.52	21.88
	4H	22.93	24.25	23.33	24.60	24.98	20.16	21.48	20.56	21.83	22.21
	6H	23.41	24.63	23.82	25.00	25.39	20.42	21.65	20.83	22.01	22.40
	8H	23.56	24.72	23.98	25.11	25.51	20.52	21.68	20.94	22.07	22.47
	12H	23.66	24.77	24.09	25.15	25.58	20.58	21.70	21.01	22.08	22.51
4H	2H	20.84	22.16	21.24	22.51	22.89	19.23	20.55	19.63	20.90	21.28
	3H	22.80	23.91	23.21	24.30	24.71	20.66	21.76	21.07	22.16	22.56
	4H	23.59	24.58	24.02	24.99	25.43	21.11	22.11	21.55	22.52	22.96
	6H	24.18	25.05	24.64	25.49	25.95	21.46	22.33	21.92	22.77	23.23
	8H	24.37	25.18	24.84	25.63	26.09	21.59	22.40	22.05	22.84	23.31
	12H	24.51	25.24	25.00	25.72	26.19	21.69	22.41	22.17	22.89	23.36
8H	4H	23.68	24.49	24.14	24.93	25.40	21.43	22.24	21.89	22.68	23.15
	6H	24.35	25.02	24.85	25.51	25.99	21.86	22.53	22.35	23.02	23.49
	8H	24.59	25.19	25.11	25.70	26.19	22.04	22.64	22.55	23.15	23.64
	12H	24.79	25.32	25.30	25.81	26.37	22.20	22.73	22.70	23.22	23.78
12H	4H	23.67	24.39	24.15	24.87	25.34	21.47	22.19	21.95	22.67	23.14
	6H	24.34	24.94	24.85	25.45	25.94	21.91	22.51	22.42	23.02	23.51
	8H	24.62	25.15	25.13	25.64	26.21	22.14	22.67	22.65	23.16	23.73