

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: P243461

Luminaire Tested: S124DRP-H795D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243461  
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-H795D830-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

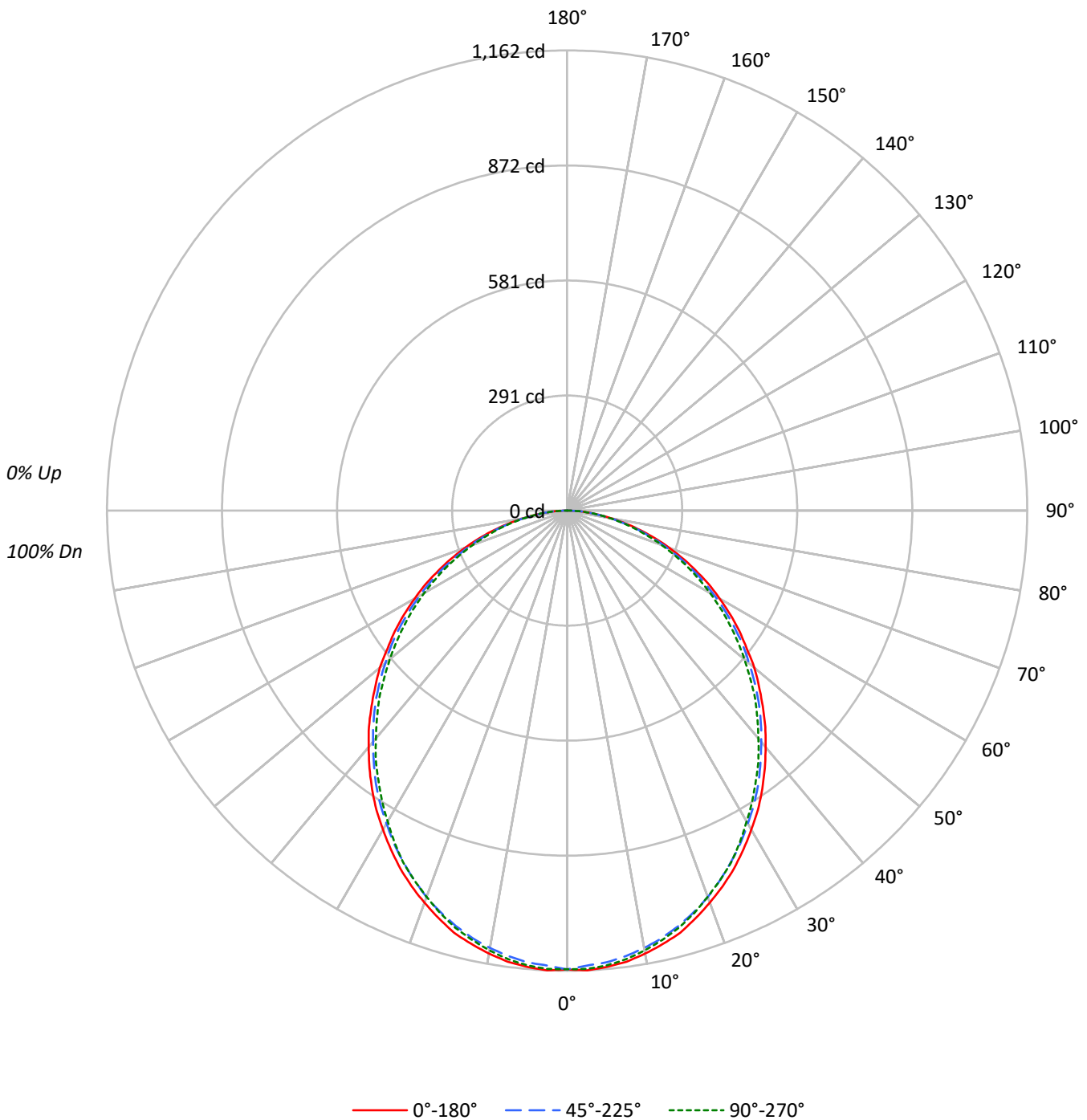
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2982.1 lumens  
Efficiency: N/A  
Efficacy: 126.4 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): 23.6  
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°	10297	10297	10297
5°	10319	10218	10285
10°	10252	10124	10183
15°	10157	9992	10035
20°	9968	9825	9816
25°	9780	9605	9614
30°	9549	9365	9306
35°	9318	9134	9021
40°	9045	8848	8717
45°	8779	8602	8436
50°	8538	8290	8081
55°	8224	8004	7756
60°	7909	7641	7406
65°	7534	7275	7038
70°	7129	6809	6588
75°	6570	6312	6117
80°	5789	5692	5549
85°	5099	5099	4997

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8779 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.2	3.7
10°-20°	307.9	10.3
20°-30°	453.5	15.2
30°-40°	527.6	17.7
40°-50°	527.8	17.7
50°-60°	461.6	15.5
60°-70°	342.8	11.5
70°-80°	195.3	6.6
80°-90°	56.3	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°	870.6	29.2
0°-40°	1398.2	46.9
0°-60°	2387.6	80.1
0°-90°	2982.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2982.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1158	1158	1158	1158	1158	
5°	1156	1155	1145	1154	1153	110
15°	1104	1098	1086	1092	1090	311
25°	997	992	979	982	980	459
35°	859	851	842	834	831	537
45°	698	696	684	674	671	539
55°	531	527	516	505	500	474
65°	358	355	346	338	335	356
75°	191	188	184	180	178	203
85°	50	49	50	48	49	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1158.4	1158.4	1158.4	1158.4	1158.4
2.5°	1162.2	1159.3	1149.9	1159.3	1158.4
5°	1156.5	1154.6	1145.2	1153.7	1152.7
7.5°	1149.0	1145.2	1134.8	1143.3	1142.4
10°	1135.8	1132.9	1121.6	1130.1	1128.2
12.5°	1120.7	1117.9	1105.6	1112.2	1110.3
15°	1103.7	1098.1	1085.8	1092.4	1090.5
17.5°	1079.2	1075.4	1063.2	1068.8	1066.0
20°	1053.8	1049.1	1038.7	1039.6	1037.7
22.5°	1026.4	1021.7	1009.5	1013.2	1009.5
25°	997.2	992.5	979.3	982.1	980.2
27.5°	964.2	959.5	947.3	948.2	944.4
30°	930.3	924.6	912.4	911.4	906.7
32.5°	896.4	890.7	878.5	874.7	870.0
35°	858.7	851.1	841.7	834.2	831.3
37.5°	820.0	816.2	802.1	797.4	793.6
40°	779.5	775.7	762.5	755.9	751.2
42.5°	740.8	736.1	723.9	714.4	710.7
45°	698.4	695.6	684.3	673.9	671.1
47.5°	657.0	656.0	641.9	631.5	626.8
50°	617.4	611.7	599.5	590.0	584.4
52.5°	571.2	570.2	559.9	547.6	542.9
55°	530.7	526.9	516.5	505.2	500.5
57.5°	488.2	486.4	473.2	463.7	459.0
60°	444.9	441.1	429.8	421.3	416.6
62.5°	403.4	398.7	388.3	379.8	375.1
65°	358.2	355.3	345.9	338.4	334.6
67.5°	315.8	312.0	302.6	296.0	292.2
70°	274.3	268.6	262.0	256.4	253.5
72.5°	232.8	228.1	222.4	218.7	214.9
75°	191.3	187.6	183.8	180.0	178.1
77.5°	151.7	148.0	146.1	145.2	143.3
80°	113.1	111.2	111.2	110.3	108.4
82.5°	80.1	78.2	78.2	78.2	77.3
85°	50.0	49.0	50.0	48.1	49.0
87.5°	23.6	23.6	24.5	23.6	24.5
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	19.40	21.02	19.77	21.33	21.64	19.05	20.67	19.42	20.98	21.29
	3H	21.15	22.61	21.53	22.94	23.30	20.76	22.22	21.14	22.55	22.91
	4H	21.81	23.18	22.21	23.53	23.91	21.41	22.79	21.81	23.13	23.51
	6H	22.28	23.56	22.70	23.92	24.31	21.90	23.17	22.31	23.54	23.93
	8H	22.44	23.65	22.86	24.04	24.44	22.06	23.28	22.49	23.67	24.07
	12H	22.54	23.71	22.97	24.09	24.52	22.18	23.34	22.60	23.72	24.15
4H	2H	19.97	21.35	20.37	21.69	22.07	19.70	21.07	20.09	21.42	21.79
	3H	21.95	23.10	22.36	23.49	23.89	21.63	22.78	22.04	23.18	23.58
	4H	22.73	23.77	23.16	24.19	24.62	22.40	23.44	22.83	23.86	24.29
	6H	23.33	24.24	23.79	24.68	25.14	23.02	23.93	23.47	24.37	24.83
	8H	23.53	24.38	23.99	24.83	25.29	23.23	24.08	23.69	24.52	24.99
	12H	23.68	24.45	24.16	24.93	25.39	23.39	24.15	23.87	24.63	25.10
8H	4H	23.01	23.87	23.47	24.31	24.77	22.72	23.58	23.18	24.02	24.48
	6H	23.73	24.44	24.23	24.93	25.41	23.47	24.17	23.96	24.66	25.14
	8H	24.01	24.64	24.52	25.15	25.63	23.75	24.39	24.26	24.89	25.38
	12H	24.23	24.79	24.74	25.28	25.85	23.99	24.55	24.49	25.04	25.60
12H	4H	23.04	23.81	23.52	24.28	24.75	22.76	23.52	23.24	24.00	24.47
	6H	23.78	24.42	24.29	24.93	25.41	23.52	24.16	24.03	24.67	25.15
	8H	24.11	24.68	24.62	25.17	25.73	23.87	24.43	24.38	24.92	25.48