

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: P243465

Luminaire Tested: S124DRP-H575D835-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243465  
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-H575D835-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

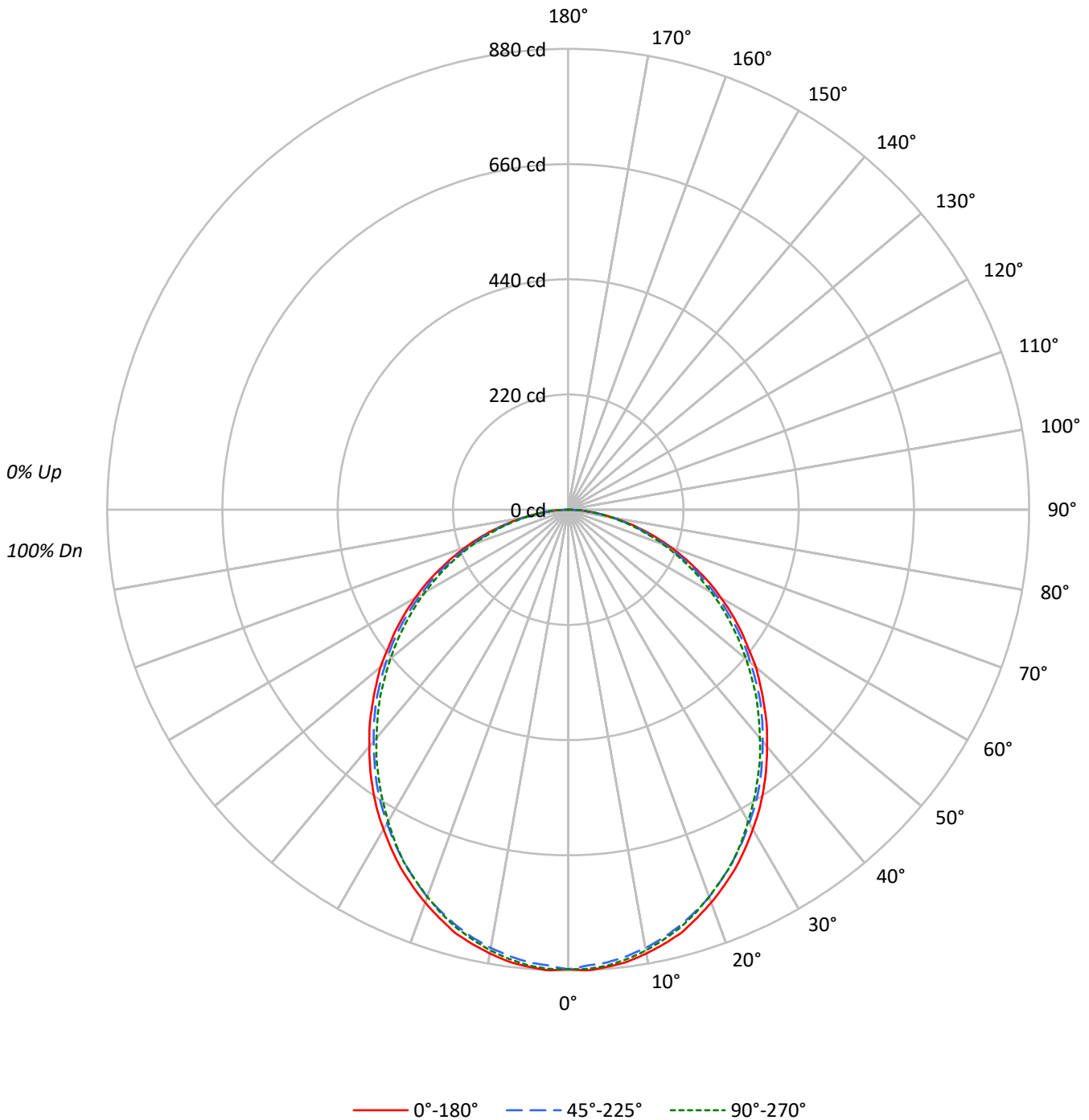
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2259.1 lumens  
Efficiency: N/A  
Efficacy: 131.3 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): 17.2  
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	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°	7801	7801	7801
5°	7817	7741	7792
10°	7766	7669	7715
15°	7694	7570	7602
20°	7551	7444	7437
25°	7410	7276	7283
30°	7234	7094	7050
35°	7059	6919	6834
40°	6852	6703	6604
45°	6651	6517	6391
50°	6468	6280	6122
55°	6230	6064	5877
60°	5991	5788	5611
65°	5706	5513	5332
70°	5401	5159	4993
75°	4976	4781	4636
80°	4387	4315	4203
85°	3855	3855	3784

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6651 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.7	3.7
10°-20°	233.3	10.3
20°-30°	343.5	15.2
30°-40°	399.7	17.7
40°-50°	399.9	17.7
50°-60°	349.7	15.5
60°-70°	259.7	11.5
70°-80°	148.0	6.6
80°-90°	42.6	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°	659.5	29.2
0°-40°	1059.2	46.9
0°-60°	1808.8	80.1
0°-90°	2259.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2259.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	878	878	878	878	878	
5°	876	875	868	874	873	83
15°	836	832	823	828	826	235
25°	756	752	742	744	743	348
35°	650	645	638	632	630	407
45°	529	527	518	510	508	409
55°	402	399	391	383	379	359
65°	271	269	262	256	254	269
75°	145	142	139	136	135	154
85°	38	37	38	36	37	43
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	877.6	877.6	877.6	877.6	877.6
2.5°	880.4	878.3	871.1	878.3	877.6
5°	876.1	874.7	867.6	874.0	873.3
7.5°	870.4	867.6	859.7	866.1	865.4
10°	860.4	858.3	849.7	856.1	854.7
12.5°	849.0	846.8	837.6	842.6	841.1
15°	836.1	831.9	822.6	827.6	826.1
17.5°	817.6	814.7	805.4	809.7	807.6
20°	798.3	794.7	786.9	787.6	786.2
22.5°	777.6	774.0	764.7	767.6	764.7
25°	755.5	751.9	741.9	744.0	742.6
27.5°	730.5	726.9	717.6	718.3	715.5
30°	704.8	700.5	691.2	690.5	686.9
32.5°	679.0	674.8	665.5	662.6	659.1
35°	650.5	644.8	637.6	631.9	629.8
37.5°	621.2	618.4	607.6	604.1	601.2
40°	590.5	587.7	577.7	572.7	569.1
42.5°	561.2	557.7	548.4	541.2	538.4
45°	529.1	527.0	518.4	510.5	508.4
47.5°	497.7	497.0	486.3	478.4	474.8
50°	467.7	463.4	454.1	447.0	442.7
52.5°	432.7	432.0	424.1	414.9	411.3
55°	402.0	399.1	391.3	382.7	379.2
57.5°	369.9	368.4	358.4	351.3	347.7
60°	337.0	334.2	325.6	319.2	315.6
62.5°	305.6	302.0	294.2	287.8	284.2
65°	271.3	269.2	262.1	256.3	253.5
67.5°	239.2	236.3	229.2	224.2	221.4
70°	207.8	203.5	198.5	194.2	192.1
72.5°	176.4	172.8	168.5	165.7	162.8
75°	144.9	142.1	139.2	136.4	135.0
77.5°	115.0	112.1	110.7	110.0	108.5
80°	85.7	84.3	84.3	83.5	82.1
82.5°	60.7	59.3	59.3	59.3	58.6
85°	37.8	37.1	37.8	36.4	37.1
87.5°	17.9	17.9	18.6	17.9	18.6
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	18.43	20.05	18.80	20.36	20.68	18.09	19.70	18.45	20.02	20.33
	3H	20.19	21.65	20.56	21.97	22.33	19.80	21.26	20.18	21.58	21.95
	4H	20.84	22.22	21.24	22.57	22.94	20.45	21.82	20.85	22.17	22.55
	6H	21.32	22.59	21.73	22.96	23.35	20.94	22.21	21.35	22.57	22.97
	8H	21.47	22.69	21.90	23.08	23.48	21.10	22.31	21.52	22.70	23.10
	12H	21.58	22.74	22.01	23.12	23.55	21.21	22.38	21.64	22.76	23.19
4H	2H	19.01	20.38	19.41	20.73	21.10	18.73	20.10	19.13	20.45	20.83
	3H	20.98	22.13	21.39	22.53	22.93	20.66	21.82	21.07	22.21	22.61
	4H	21.77	22.81	22.20	23.22	23.66	21.44	22.48	21.87	22.89	23.33
	6H	22.37	23.28	22.82	23.72	24.18	22.06	22.97	22.51	23.41	23.86
	8H	22.57	23.42	23.03	23.86	24.33	22.27	23.12	22.73	23.56	24.02
	12H	22.72	23.48	23.20	23.96	24.43	22.42	23.19	22.90	23.66	24.13
8H	4H	22.05	22.90	22.51	23.34	23.81	21.76	22.61	22.22	23.05	23.52
	6H	22.77	23.48	23.26	23.97	24.44	22.50	23.21	23.00	23.70	24.17
	8H	23.04	23.68	23.55	24.18	24.67	22.79	23.42	23.30	23.93	24.41
	12H	23.27	23.83	23.77	24.32	24.88	23.02	23.58	23.53	24.07	24.63
12H	4H	22.08	22.84	22.56	23.32	23.79	21.80	22.56	22.28	23.04	23.50
	6H	22.82	23.46	23.33	23.96	24.45	22.56	23.20	23.07	23.70	24.19
	8H	23.15	23.71	23.66	24.20	24.76	22.91	23.47	23.41	23.96	24.52