

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: P243480

Luminaire Tested: S124DRP-H795D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243480  
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-H795D935-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

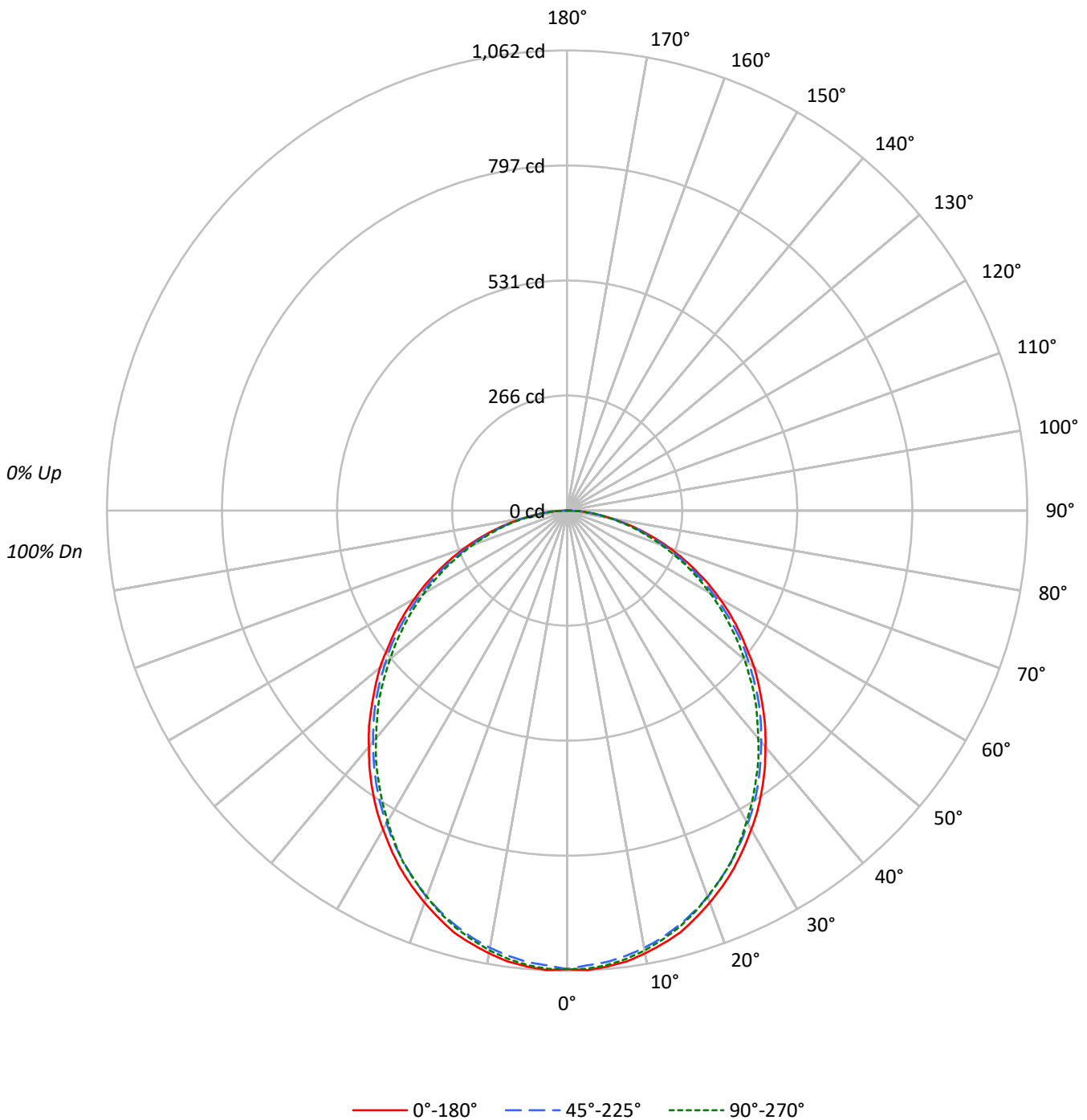
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2724.1 lumens  
Efficiency: N/A  
Efficacy: 115.4 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	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°	9406	9406	9406
5°	9426	9334	9396
10°	9365	9248	9302
15°	9278	9128	9168
20°	9106	8975	8967
25°	8934	8774	8782
30°	8722	8554	8502
35°	8512	8344	8241
40°	8262	8082	7962
45°	8020	7858	7706
50°	7799	7573	7382
55°	7512	7312	7085
60°	7225	6980	6766
65°	6882	6646	6430
70°	6513	6222	6019
75°	6003	5766	5588
80°	5288	5201	5068
85°	4651	4651	4569

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8020 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.8	3.7
10°-20°	281.3	10.3
20°-30°	414.2	15.2
30°-40°	481.9	17.7
40°-50°	482.2	17.7
50°-60°	421.7	15.5
60°-70°	313.2	11.5
70°-80°	178.4	6.6
80°-90°	51.4	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°	795.3	29.2
0°-40°	1277.2	46.9
0°-60°	2181.0	80.1
0°-90°	2724.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2724.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1058	1058	1058	1058	1058	
5°	1056	1055	1046	1054	1053	100
15°	1008	1003	992	998	996	284
25°	911	907	895	897	895	419
35°	784	778	769	762	759	490
45°	638	635	625	616	613	493
55°	485	481	472	462	457	433
65°	327	325	316	309	306	325
75°	175	171	168	164	163	185
85°	46	45	46	44	45	52
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1058.2	1058.2	1058.2	1058.2	1058.2
2.5°	1061.6	1059.0	1050.4	1059.0	1058.2
5°	1056.4	1054.7	1046.1	1053.9	1053.0
7.5°	1049.6	1046.1	1036.6	1044.4	1043.5
10°	1037.5	1034.9	1024.6	1032.3	1030.6
12.5°	1023.7	1021.1	1010.0	1016.0	1014.3
15°	1008.2	1003.1	991.9	997.9	996.2
17.5°	985.8	982.4	971.2	976.4	973.8
20°	962.6	958.3	948.8	949.7	948.0
22.5°	937.6	933.3	922.1	925.6	922.1
25°	910.9	906.6	894.6	897.2	895.4
27.5°	880.8	876.5	865.3	866.2	862.7
30°	849.8	844.6	833.4	832.6	828.3
32.5°	818.8	813.6	802.5	799.0	794.7
35°	784.4	777.5	768.9	762.0	759.4
37.5°	749.1	745.6	732.7	728.4	725.0
40°	712.0	708.6	696.5	690.5	686.2
42.5°	676.7	672.4	661.2	652.6	649.2
45°	638.0	635.4	625.1	615.6	613.0
47.5°	600.1	599.3	586.3	576.9	572.6
50°	564.0	558.8	547.6	539.0	533.8
52.5°	521.8	520.9	511.4	500.2	495.9
55°	484.7	481.3	471.8	461.5	457.2
57.5°	446.0	444.3	432.2	423.6	419.3
60°	406.4	402.9	392.6	384.9	380.6
62.5°	368.5	364.2	354.7	347.0	342.7
65°	327.2	324.6	316.0	309.1	305.7
67.5°	288.4	285.0	276.4	270.4	266.9
70°	250.6	245.4	239.4	234.2	231.6
72.5°	212.7	208.4	203.2	199.8	196.3
75°	174.8	171.3	167.9	164.5	162.7
77.5°	138.6	135.2	133.5	132.6	130.9
80°	103.3	101.6	101.6	100.7	99.0
82.5°	73.2	71.5	71.5	71.5	70.6
85°	45.6	44.8	45.6	43.9	44.8
87.5°	21.5	21.5	22.4	21.5	22.4
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	19.09	20.70	19.45	21.01	21.33	18.74	20.35	19.10	20.67	20.98
	3H	20.84	22.30	21.22	22.62	22.98	20.45	21.91	20.83	22.24	22.60
	4H	21.50	22.87	21.89	23.22	23.59	21.10	22.47	21.50	22.82	23.20
	6H	21.97	23.24	22.38	23.61	24.00	21.59	22.86	22.00	23.22	23.62
	8H	22.12	23.34	22.55	23.73	24.13	21.75	22.96	22.17	23.35	23.75
	12H	22.23	23.39	22.66	23.77	24.20	21.86	23.03	22.29	23.41	23.84
4H	2H	19.66	21.03	20.06	21.38	21.76	19.38	20.76	19.78	21.10	21.48
	3H	21.63	22.78	22.04	23.18	23.58	21.31	22.47	21.72	22.86	23.26
	4H	22.42	23.46	22.85	23.87	24.31	22.09	23.13	22.52	23.54	23.98
	6H	23.02	23.93	23.47	24.37	24.83	22.71	23.62	23.16	24.06	24.51
	8H	23.22	24.07	23.68	24.51	24.98	22.92	23.77	23.38	24.21	24.67
	12H	23.37	24.14	23.85	24.61	25.08	23.07	23.84	23.55	24.31	24.78
8H	4H	22.70	23.55	23.16	23.99	24.46	22.41	23.26	22.87	23.70	24.17
	6H	23.42	24.13	23.91	24.62	25.09	23.15	23.86	23.65	24.35	24.82
	8H	23.69	24.33	24.20	24.83	25.32	23.44	24.07	23.95	24.58	25.06
	12H	23.92	24.48	24.43	24.97	25.53	23.67	24.23	24.18	24.72	25.29
12H	4H	22.73	23.49	23.21	23.97	24.44	22.45	23.21	22.93	23.69	24.15
	6H	23.47	24.11	23.98	24.61	25.10	23.21	23.85	23.72	24.35	24.84
	8H	23.80	24.36	24.31	24.85	25.41	23.56	24.12	24.06	24.61	25.17