

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: P243525

Luminaire Tested: S124DRP-H795D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243525
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-55)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-H795D927-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

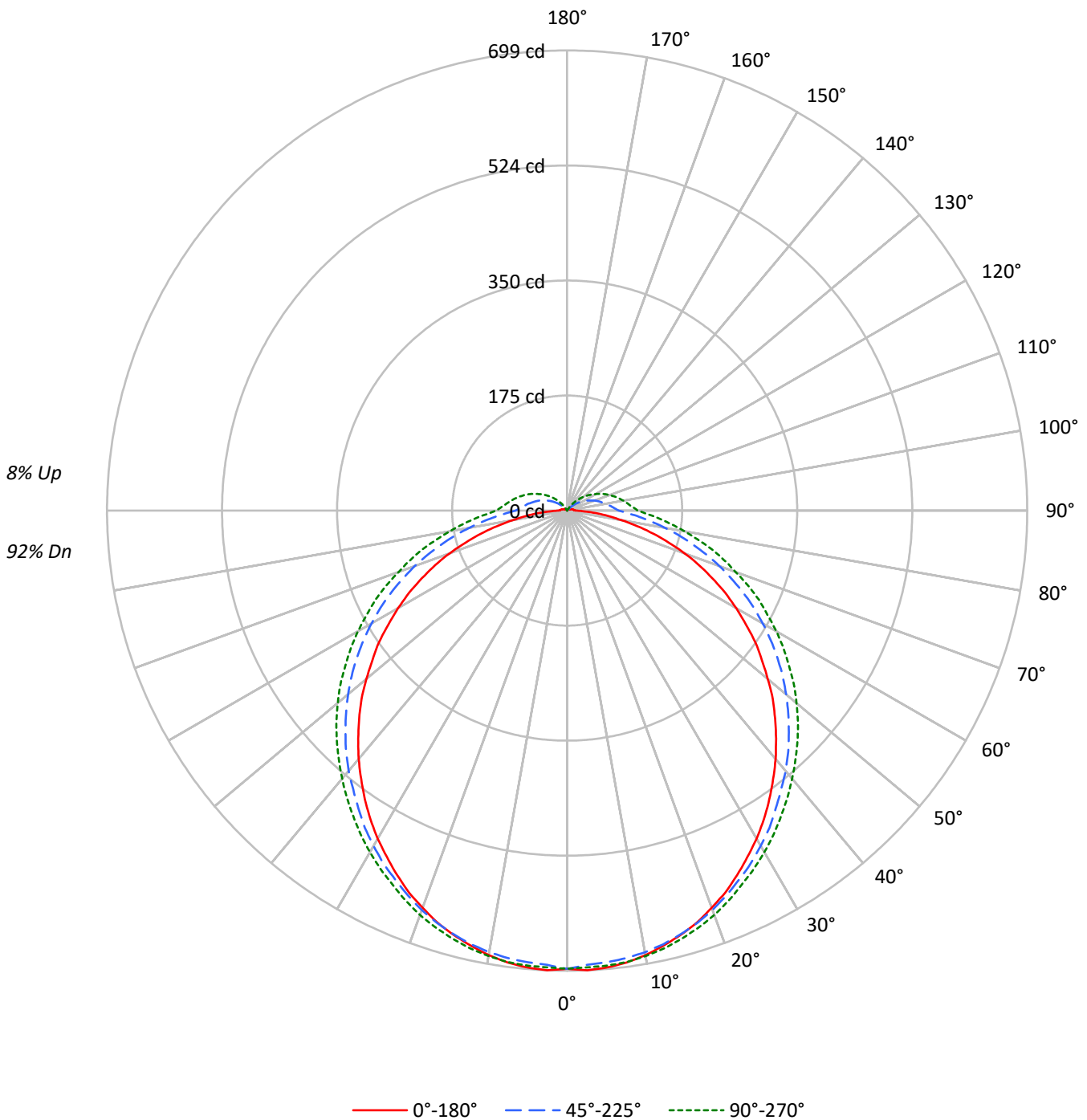
Lumens per Lamp: N/A
Luminaire Lumens: 2379.1 lumens
Efficiency: N/A
Efficacy: 100.8 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (A_{in}): 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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	46	55	49	45	43
5	72	59	50	43	70	58	49	42	55	47	41	52	45	40	49	43	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6187	6187	6187
5°	6205	6037	6050
10°	6166	5935	5923
15°	6105	5815	5781
20°	6026	5686	5637
25°	5932	5538	5471
30°	5833	5400	5329
35°	5725	5247	5181
40°	5615	5116	5043
45°	5497	4974	4911
50°	5365	4831	4774
55°	5249	4679	4615
60°	5084	4510	4462
65°	4892	4319	4305
70°	4665	4104	4083
75°	4305	3837	3921
80°	3814	3583	3692
85°	3455	3376	3560

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5497 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.9	2.8
10°-20°	188.9	7.9
20°-30°	286.0	12.0
30°-40°	346.3	14.6
40°-50°	366.3	15.4
50°-60°	345.1	14.5
60°-70°	286.7	12.1
70°-80°	201.5	8.5
80°-90°	113.5	4.8
90°-100°	67.4	2.8
100°-110°	49.9	2.1
110°-120°	33.3	1.4
120°-130°	18.8	0.8
130°-140°	8.0	0.3
140°-150°	1.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	540.8	22.7
0°-40°	887.1	37.3
0°-60°	1598.5	67.2
0°-90°	2200.3	92.5
90°-120°	150.5	6.3
90°-150°	178.8	7.5
90°-180°	179.0	7.5
0°-180°	2379.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	696	696	696	696	696	
5°	697	694	689	694	694	66
15°	667	669	666	674	673	188
25°	611	616	618	627	627	282
35°	536	544	552	564	567	335
45°	447	461	476	490	495	345
55°	349	368	390	407	411	311
65°	243	268	295	314	322	241
75°	135	164	197	219	228	143
85°	42	75	110	134	141	43
90°	13	44	78	100	107	8
95°	10	36	68	90	95	8
105°	7	23	52	71	78	8
115°	5	12	36	53	60	5
125°	3	2	21	36	41	3
135°	2	2	7	19	24	1
145°	1	0	0	4	7	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	696.0	696.0	696.0	696.0	696.0
2.5°	699.0	696.7	690.8	695.3	694.5
5°	696.7	693.8	688.6	694.5	693.8
7.5°	692.3	690.1	685.7	692.3	691.6
10°	685.7	684.2	681.2	687.1	687.1
12.5°	676.8	676.8	674.6	681.2	681.2
15°	667.2	668.6	666.4	673.8	673.1
17.5°	656.1	657.5	656.8	664.2	664.2
20°	642.0	644.2	645.7	653.8	653.8
22.5°	628.0	630.9	632.4	641.3	641.3
25°	610.9	616.1	618.3	627.2	627.2
27.5°	593.2	599.9	604.3	612.4	613.9
30°	575.4	582.8	588.0	596.9	599.1
32.5°	556.2	563.6	571.7	580.6	583.6
35°	535.5	544.4	552.5	564.3	566.6
37.5°	514.1	524.4	534.0	546.6	549.6
40°	492.6	505.2	516.3	528.1	531.8
42.5°	469.7	482.2	497.0	509.6	513.3
45°	446.7	460.8	476.3	490.4	494.8
47.5°	423.8	438.6	455.6	470.4	475.6
50°	397.9	414.2	434.2	449.0	454.9
52.5°	372.8	390.5	412.7	427.5	434.2
55°	349.1	367.6	389.8	406.8	411.2
57.5°	321.7	342.5	366.9	385.4	389.8
60°	296.6	317.3	343.2	361.7	366.9
62.5°	270.7	292.9	319.5	338.0	343.2
65°	243.3	267.8	295.1	313.6	321.7
67.5°	216.7	241.1	270.0	290.7	297.3
70°	190.1	215.2	246.3	267.0	272.2
72.5°	162.0	189.3	221.2	242.6	250.0
75°	135.4	164.2	196.7	218.9	227.8
77.5°	109.5	139.8	173.8	196.7	202.7
80°	83.6	116.9	150.9	173.8	181.2
82.5°	62.9	93.9	129.4	153.8	159.8
85°	42.2	74.7	110.2	133.9	141.3
87.5°	25.1	58.4	92.5	114.6	122.0
90°	12.6	43.6	78.4	99.9	107.2
92.5°	11.1	39.2	72.5	93.9	101.3
95°	10.4	35.5	68.0	89.5	95.4
97.5°	9.6	32.5	63.6	84.3	91.0
100°	8.9	28.8	59.9	79.9	86.5
102.5°	8.1	25.9	55.5	75.4	82.1
105°	7.4	22.9	51.8	71.0	77.7
107.5°	6.7	20.0	48.1	66.6	73.2
110°	5.9	17.0	44.4	62.1	68.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.2	14.8	39.9	57.7	64.3
115°	5.2	11.8	36.2	53.3	59.9
117.5°	4.4	8.9	32.5	48.8	54.7
120°	4.4	6.7	28.8	44.4	50.3
122.5°	3.7	4.4	25.1	40.7	45.9
125°	3.0	2.2	21.4	36.2	41.4
127.5°	3.0	2.2	17.8	31.8	37.0
130°	2.2	2.2	14.1	27.4	32.5
132.5°	2.2	1.5	10.4	23.7	28.1
135°	1.5	1.5	6.7	19.2	23.7
137.5°	1.5	0.7	4.4	15.5	20.0
140°	1.5	0.7	1.5	11.8	15.5
142.5°	0.7	0.7	0.0	8.1	11.1
145°	0.7	0.0	0.0	4.4	7.4
147.5°	0.7	0.0	0.0	0.7	3.7
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	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	16.12	17.65	16.60	18.11	18.61	17.70	19.23	18.18	19.69	20.19
	3H	17.77	19.16	18.26	19.64	20.17	20.01	21.40	20.50	21.88	22.42
	4H	18.34	19.66	18.85	20.15	20.70	21.08	22.40	21.59	22.89	23.44
	6H	18.72	19.95	19.25	20.46	21.02	22.13	23.36	22.65	23.86	24.43
	8H	18.83	20.01	19.37	20.54	21.11	22.64	23.82	23.18	24.35	24.92
	12H	18.90	20.02	19.44	20.55	21.15	23.20	24.32	23.74	24.85	25.45
4H	2H	16.98	18.30	17.49	18.79	19.34	18.20	19.52	18.72	20.01	20.57
	3H	18.87	19.99	19.39	20.52	21.10	20.74	21.86	21.26	22.39	22.97
	4H	19.58	20.60	20.12	21.15	21.75	21.96	22.99	22.51	23.53	24.14
	6H	20.09	21.00	20.66	21.57	22.19	23.19	24.09	23.75	24.66	25.28
	8H	20.25	21.10	20.82	21.67	22.30	23.79	24.64	24.36	25.22	25.85
	12H	20.35	21.12	20.94	21.72	22.36	24.46	25.23	25.05	25.83	26.46
8H	4H	20.16	21.01	20.73	21.58	22.21	22.22	23.07	22.79	23.64	24.27
	6H	20.85	21.57	21.45	22.18	22.82	23.60	24.32	24.20	24.93	25.57
	8H	21.10	21.75	21.72	22.37	23.02	24.34	24.99	24.95	25.61	26.26
	12H	21.29	21.87	21.91	22.48	23.20	25.17	25.74	25.78	26.36	27.07
12H	4H	20.29	21.06	20.88	21.66	22.30	22.23	23.00	22.82	23.60	24.24
	6H	21.06	21.71	21.68	22.34	22.99	23.65	24.30	24.26	24.92	25.57
	8H	21.40	21.98	22.02	22.59	23.31	24.46	25.03	25.07	25.65	26.36