

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: P242665

Luminaire Tested: S124DRP-S795D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242665
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S795D927-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

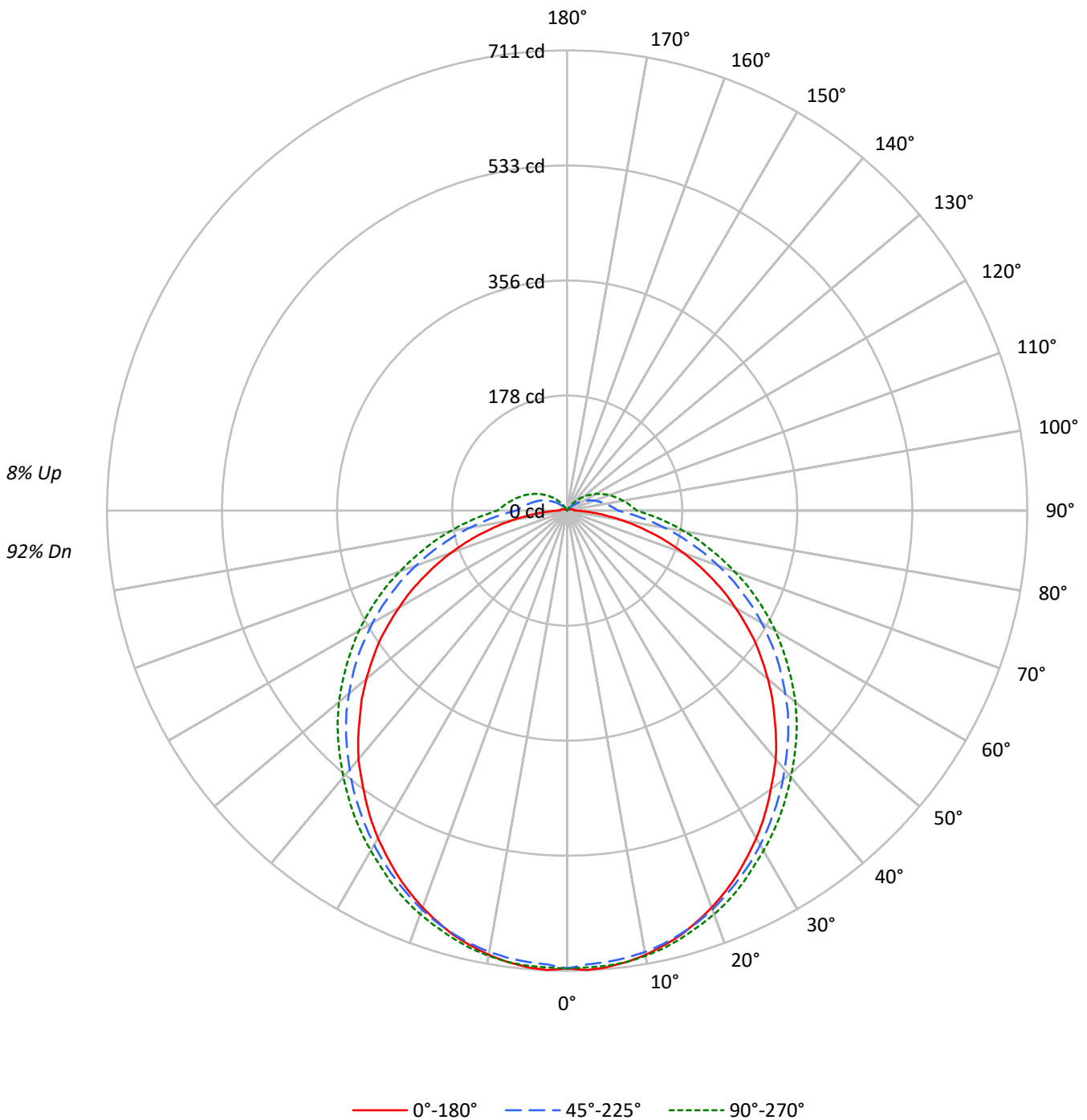
Lumens per Lamp: N/A
Luminaire Lumens: 2411.9 lumens
Efficiency: N/A
Efficacy: 91.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 26.4
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	87	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	47	55	49	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	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	38	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6288	6288	6288
5°	6307	6139	6154
10°	6268	6033	6023
15°	6212	5910	5872
20°	6127	5776	5724
25°	6031	5627	5563
30°	5927	5478	5397
35°	5809	5327	5251
40°	5716	5181	5100
45°	5576	5046	4969
50°	5458	4892	4830
55°	5336	4745	4668
60°	5145	4560	4518
65°	4938	4360	4335
70°	4685	4132	4123
75°	4333	3878	3926
80°	3937	3631	3729
85°	3438	3398	3593

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5576 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.0	2.8
10°-20°	192.0	8.0
20°-30°	290.4	12.0
30°-40°	351.3	14.6
40°-50°	371.4	15.4
50°-60°	349.5	14.5
60°-70°	290.0	12.0
70°-80°	203.5	8.4
80°-90°	114.8	4.8
90°-100°	68.3	2.8
100°-110°	50.6	2.1
110°-120°	34.0	1.4
120°-130°	19.1	0.8
130°-140°	8.3	0.3
140°-150°	1.6	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	549.5	22.8
0°-40°	900.8	37.3
0°-60°	1621.7	67.2
0°-90°	2230.0	92.5
90°-120°	152.9	6.3
90°-150°	181.9	7.5
90°-180°	182.0	7.5
0°-180°	2411.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	707	707	707	707	707	
5°	708	706	700	707	706	67
15°	679	680	677	684	684	191
25°	621	626	628	637	638	286
35°	543	553	561	572	574	340
45°	453	468	483	497	501	350
55°	355	372	395	411	416	316
65°	246	271	298	318	324	243
75°	136	166	199	221	228	145
85°	42	75	111	135	143	44
90°	13	44	78	101	108	9
95°	10	36	69	90	97	8
105°	7	23	52	72	78	8
115°	5	12	37	55	60	5
125°	3	2	22	37	42	3
135°	2	2	7	20	25	1
145°	1	0	0	5	8	1
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°	707.4	707.4	707.4	707.4	707.4
2.5°	710.6	708.2	701.9	707.4	706.6
5°	708.2	705.8	700.3	706.6	705.8
7.5°	703.5	701.9	697.1	704.2	703.5
10°	697.1	696.3	692.4	699.5	698.7
12.5°	688.4	688.4	686.0	692.4	692.4
15°	678.9	679.7	677.3	684.4	683.7
17.5°	666.2	668.6	667.8	674.9	674.1
20°	652.8	655.1	655.9	663.8	663.8
22.5°	637.7	640.9	642.5	650.4	652.0
25°	621.1	625.8	628.2	636.9	637.7
27.5°	602.9	610.0	613.1	621.1	621.9
30°	584.6	591.0	596.5	605.2	606.8
32.5°	564.8	572.7	579.1	589.4	591.0
35°	543.4	552.9	560.9	572.0	574.3
37.5°	522.0	533.1	542.6	553.7	556.1
40°	501.5	511.7	522.8	534.7	537.9
42.5°	477.7	489.6	503.0	516.5	518.9
45°	453.1	468.2	483.2	496.7	500.7
47.5°	430.2	445.2	462.6	476.1	480.9
50°	404.8	422.2	439.7	455.5	460.3
52.5°	379.5	396.9	417.5	433.3	438.1
55°	354.9	371.5	395.3	411.1	415.9
57.5°	327.2	347.8	370.7	389.8	393.7
60°	300.2	320.8	347.0	365.2	371.5
62.5°	274.1	297.1	323.2	341.4	347.8
65°	245.6	270.9	297.9	317.7	324.0
67.5°	218.6	245.6	274.1	293.9	300.2
70°	190.9	217.8	248.0	269.3	274.9
72.5°	164.0	191.7	224.2	244.8	251.1
75°	136.3	165.6	198.8	221.0	228.1
77.5°	110.1	141.0	175.9	198.0	206.0
80°	86.3	118.0	152.9	176.7	183.0
82.5°	62.6	95.9	130.7	155.3	162.4
85°	42.0	75.3	110.9	134.7	142.6
87.5°	26.1	58.6	93.5	116.5	123.6
90°	12.7	44.4	78.4	101.4	107.7
92.5°	11.9	39.6	73.7	95.9	102.2
95°	10.3	36.4	68.9	90.3	97.4
97.5°	9.5	32.5	65.0	85.6	92.7
100°	8.7	29.3	60.2	81.6	87.1
102.5°	8.7	26.1	56.2	76.8	83.2
105°	7.1	23.0	52.3	72.1	78.4
107.5°	7.1	20.6	48.3	68.1	73.7
110°	6.3	17.4	45.2	63.4	69.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.5	15.1	41.2	58.6	65.0
115°	4.8	11.9	37.2	54.7	60.2
117.5°	4.8	9.5	33.3	49.9	56.2
120°	4.0	6.3	29.3	45.2	51.5
122.5°	4.0	4.0	25.3	41.2	46.7
125°	3.2	2.4	22.2	37.2	42.0
127.5°	3.2	2.4	18.2	32.5	38.0
130°	2.4	1.6	14.3	28.5	33.3
132.5°	2.4	1.6	11.1	24.6	29.3
135°	1.6	1.6	7.1	19.8	24.6
137.5°	1.6	0.8	4.0	15.8	19.8
140°	1.6	0.8	1.6	11.9	15.8
142.5°	0.8	0.8	0.0	8.7	11.9
145°	0.8	0.0	0.0	4.8	7.9
147.5°	0.8	0.0	0.0	0.8	4.0
150°	0.8	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	16.18	17.71	16.66	18.17	18.67	17.73	19.26	18.21	19.72	20.22
	3H	17.82	19.21	18.31	19.68	20.22	20.04	21.43	20.53	21.90	22.44
	4H	18.39	19.70	18.90	20.19	20.75	21.10	22.41	21.61	22.91	23.46
	6H	18.77	19.99	19.29	20.50	21.07	22.15	23.38	22.68	23.88	24.45
	8H	18.87	20.05	19.41	20.58	21.15	22.67	23.84	23.21	24.37	24.95
	12H	18.93	20.06	19.48	20.58	21.19	23.22	24.35	23.77	24.87	25.48
4H	2H	17.03	18.34	17.54	18.84	19.39	18.23	19.55	18.74	20.04	20.59
	3H	18.91	20.03	19.43	20.56	21.14	20.76	21.88	21.28	22.42	22.99
	4H	19.61	20.64	20.16	21.18	21.79	21.98	23.00	22.52	23.55	24.15
	6H	20.13	21.03	20.69	21.60	22.22	23.21	24.11	23.77	24.68	25.30
	8H	20.29	21.13	20.85	21.71	22.34	23.82	24.67	24.39	25.24	25.87
	12H	20.39	21.16	20.98	21.76	22.39	24.48	25.25	25.07	25.85	26.49
8H	4H	20.19	21.04	20.76	21.61	22.25	22.23	23.08	22.80	23.65	24.29
	6H	20.89	21.60	21.49	22.22	22.86	23.63	24.34	24.23	24.96	25.60
	8H	21.14	21.78	21.75	22.41	23.06	24.37	25.01	24.98	25.64	26.29
	12H	21.32	21.90	21.94	22.51	23.23	25.19	25.77	25.81	26.38	27.10
12H	4H	20.33	21.10	20.92	21.70	22.33	22.25	23.02	22.84	23.62	24.26
	6H	21.10	21.75	21.71	22.37	23.02	23.67	24.32	24.29	24.95	25.60
	8H	21.44	22.01	22.05	22.63	23.34	24.48	25.06	25.10	25.67	26.39