

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: P243539

Luminaire Tested: S124DRP-H795D840-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243539
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-H795D840-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

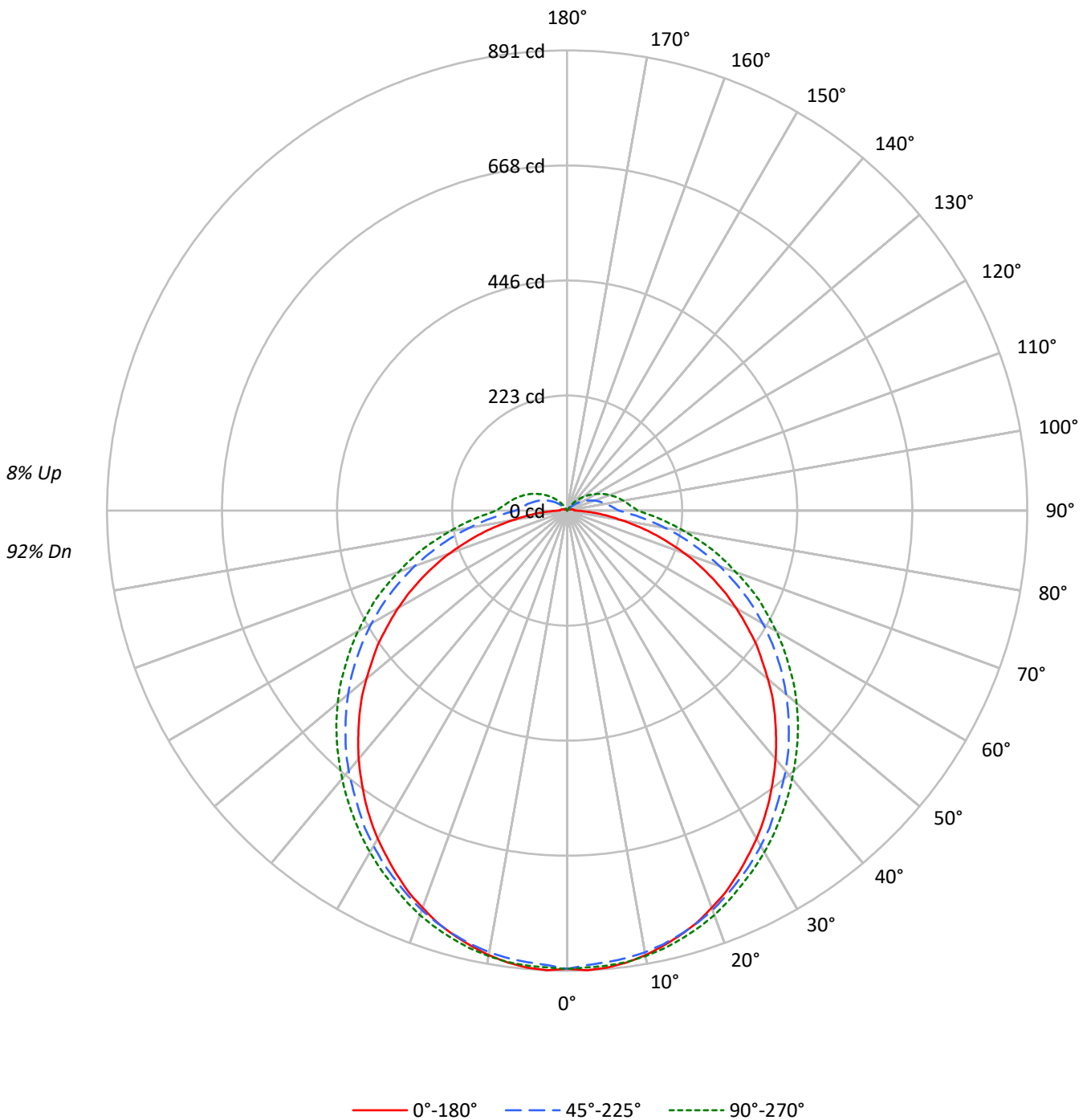
Lumens per Lamp: N/A
Luminaire Lumens: 3032.9 lumens
Efficiency: N/A
Efficacy: 128.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

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°	7887	7887	7887
5°	7910	7695	7711
10°	7860	7566	7551
15°	7782	7413	7369
20°	7681	7248	7187
25°	7563	7061	6975
30°	7437	6884	6793
35°	7298	6688	6605
40°	7158	6521	6428
45°	7008	6341	6260
50°	6840	6159	6085
55°	6691	5965	5883
60°	6480	5749	5688
65°	6237	5506	5489
70°	5946	5232	5205
75°	5484	4893	4999
80°	4859	4567	4707
85°	4396	4304	4538

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7008 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.0	2.8
10°-20°	240.9	7.9
20°-30°	364.6	12.0
30°-40°	441.5	14.6
40°-50°	466.9	15.4
50°-60°	439.9	14.5
60°-70°	365.5	12.1
70°-80°	256.9	8.5
80°-90°	144.7	4.8
90°-100°	85.9	2.8
100°-110°	63.6	2.1
110°-120°	42.4	1.4
120°-130°	23.9	0.8
130°-140°	10.2	0.3
140°-150°	2.0	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	689.4	22.7
0°-40°	1130.9	37.3
0°-60°	2037.7	67.2
0°-90°	2804.9	92.5
90°-120°	191.9	6.3
90°-150°	228.0	7.5
90°-180°	228.0	7.5
0°-180°	3032.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	887	887	887	887	887	
5°	888	884	878	885	884	84
15°	850	852	850	859	858	240
25°	779	785	788	800	800	359
35°	683	694	704	719	722	427
45°	570	587	607	625	631	439
55°	445	469	497	519	524	397
65°	310	341	376	400	410	307
75°	172	209	251	279	290	183
85°	54	95	140	171	180	55
90°	16	56	100	127	137	11
95°	13	45	87	114	122	10
105°	9	29	66	90	99	10
115°	7	15	46	68	76	6
125°	4	3	27	46	53	4
135°	2	2	8	24	30	2
145°	1	0	0	6	9	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°	887.3	887.3	887.3	887.3	887.3
2.5°	891.0	888.2	880.7	886.3	885.4
5°	888.2	884.4	877.8	885.4	884.4
7.5°	882.5	879.7	874.1	882.5	881.6
10°	874.1	872.2	868.4	875.9	875.9
12.5°	862.7	862.7	859.9	868.4	868.4
15°	850.5	852.4	849.5	859.0	858.0
17.5°	836.3	838.2	837.3	846.7	846.7
20°	818.4	821.3	823.1	833.5	833.5
22.5°	800.5	804.3	806.2	817.5	817.5
25°	778.8	785.4	788.3	799.6	799.6
27.5°	756.2	764.7	770.3	780.7	782.6
30°	733.6	743.0	749.6	760.9	763.7
32.5°	709.1	718.5	728.9	740.2	743.9
35°	682.7	694.0	704.3	719.4	722.3
37.5°	655.3	668.5	680.8	696.8	700.6
40°	628.0	644.0	658.1	673.2	677.9
42.5°	598.7	614.8	633.6	649.7	654.4
45°	569.5	587.4	607.2	625.1	630.8
47.5°	540.3	559.1	580.8	599.7	606.3
50°	507.3	528.0	553.5	572.3	579.9
52.5°	475.2	497.8	526.1	545.0	553.5
55°	445.0	468.6	496.9	518.6	524.2
57.5°	410.2	436.6	467.7	491.2	496.9
60°	378.1	404.5	437.5	461.1	467.7
62.5°	345.1	373.4	407.3	430.9	437.5
65°	310.2	341.3	376.2	399.8	410.2
67.5°	276.3	307.4	344.2	370.6	379.0
70°	242.3	274.4	314.0	340.4	347.0
72.5°	206.5	241.4	281.9	309.3	318.7
75°	172.5	209.3	250.8	279.1	290.4
77.5°	139.5	178.2	221.6	250.8	258.4
80°	106.5	149.0	192.3	221.6	231.0
82.5°	80.1	119.7	165.0	196.1	203.7
85°	53.7	95.2	140.5	170.7	180.1
87.5°	32.1	74.5	117.9	146.1	155.6
90°	16.0	55.6	99.9	127.3	136.7
92.5°	14.1	50.0	92.4	119.7	129.2
95°	13.2	45.3	86.7	114.1	121.6
97.5°	12.3	41.5	81.1	107.5	116.0
100°	11.3	36.8	76.4	101.8	110.3
102.5°	10.4	33.0	70.7	96.2	104.7
105°	9.4	29.2	66.0	90.5	99.0
107.5°	8.5	25.5	61.3	84.9	93.3
110°	7.5	21.7	56.6	79.2	87.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.6	18.9	50.9	73.5	82.0
115°	6.6	15.1	46.2	67.9	76.4
117.5°	5.7	11.3	41.5	62.2	69.8
120°	5.7	8.5	36.8	56.6	64.1
122.5°	4.7	5.7	32.1	51.9	58.5
125°	3.8	2.8	27.3	46.2	52.8
127.5°	3.8	2.8	22.6	40.5	47.1
130°	2.8	2.8	17.9	34.9	41.5
132.5°	2.8	1.9	13.2	30.2	35.8
135°	1.9	1.9	8.5	24.5	30.2
137.5°	1.9	0.9	5.7	19.8	25.5
140°	1.9	0.9	1.9	15.1	19.8
142.5°	0.9	0.9	0.0	10.4	14.1
145°	0.9	0.0	0.0	5.7	9.4
147.5°	0.9	0.0	0.0	0.9	4.7
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	16.96	18.49	17.44	18.96	19.45	18.54	20.07	19.02	20.54	21.03
	3H	18.61	20.00	19.10	20.48	21.02	20.86	22.25	21.35	22.72	23.26
	4H	19.19	20.50	19.70	21.00	21.55	21.93	23.24	22.44	23.74	24.29
	6H	19.57	20.79	20.09	21.30	21.87	22.97	24.20	23.50	24.71	25.27
	8H	19.67	20.85	20.21	21.38	21.95	23.49	24.66	24.02	25.19	25.77
	12H	19.74	20.86	20.28	21.39	21.99	24.04	25.17	24.58	25.69	26.29
4H	2H	17.82	19.14	18.33	19.63	20.18	19.05	20.36	19.56	20.86	21.41
	3H	19.71	20.83	20.23	21.37	21.94	21.58	22.70	22.10	23.24	23.81
	4H	20.42	21.45	20.96	21.99	22.60	22.81	23.83	23.35	24.38	24.98
	6H	20.94	21.84	21.50	22.41	23.03	24.03	24.93	24.59	25.50	26.12
	8H	21.09	21.94	21.66	22.51	23.15	24.64	25.49	25.21	26.06	26.69
	12H	21.20	21.97	21.79	22.57	23.20	25.30	26.07	25.89	26.67	27.31
8H	4H	21.00	21.85	21.57	22.42	23.05	23.06	23.91	23.63	24.48	25.11
	6H	21.69	22.41	22.30	23.03	23.66	24.44	25.16	25.05	25.78	26.41
	8H	21.95	22.59	22.56	23.22	23.87	25.18	25.83	25.80	26.45	27.10
	12H	22.13	22.71	22.75	23.32	24.04	26.01	26.59	26.62	27.20	27.92
12H	4H	21.14	21.91	21.73	22.51	23.14	23.08	23.85	23.67	24.45	25.08
	6H	21.91	22.56	22.52	23.18	23.83	24.49	25.14	25.11	25.77	26.42
	8H	22.24	22.82	22.86	23.43	24.15	25.30	25.88	25.91	26.49	27.21