

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: P242330

Luminaire Tested: S122DRP-S485D835-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242330
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-14)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-S485D835-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

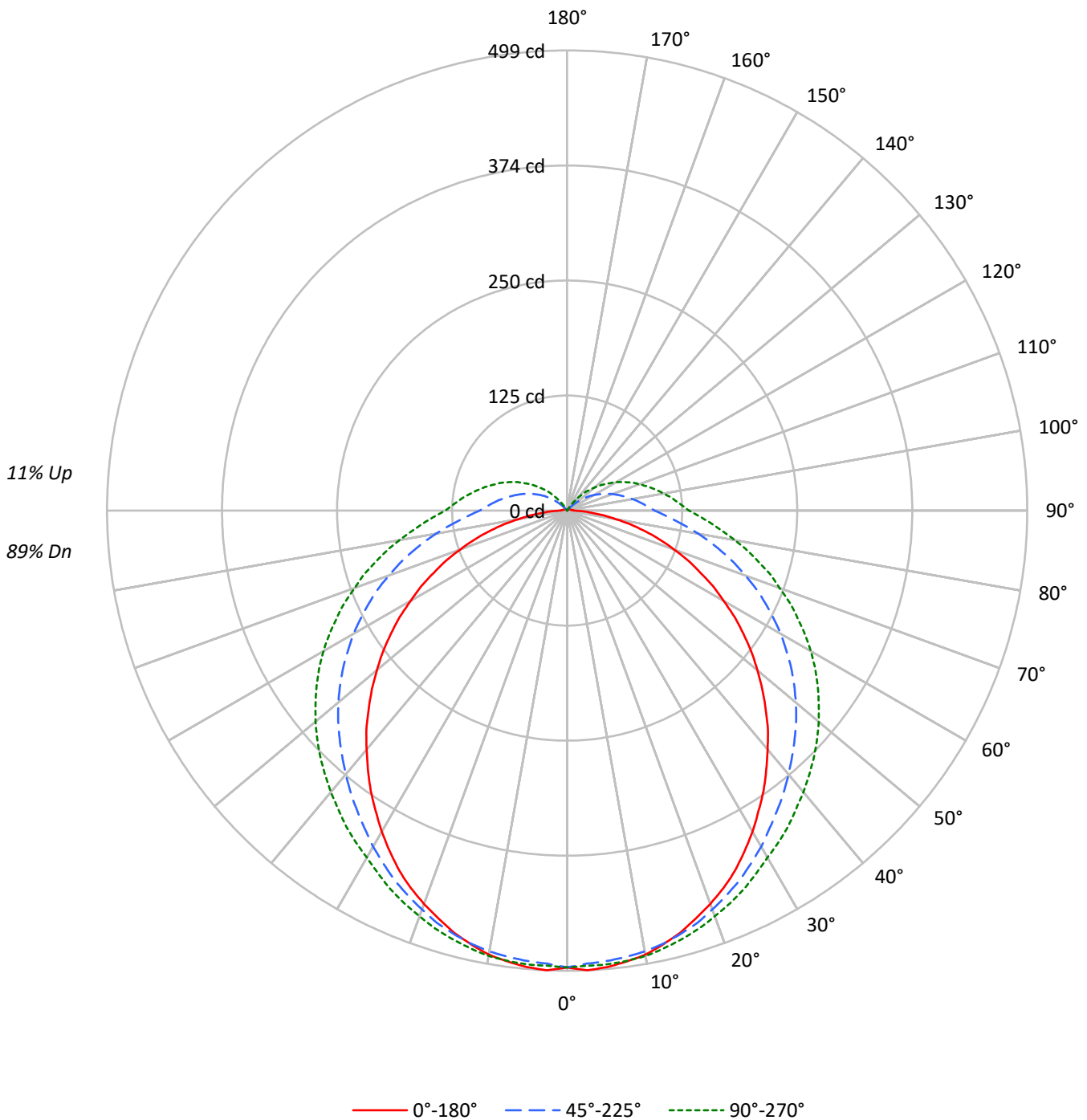
Lumens per Lamp: N/A
Luminaire Lumens: 1890.4 lumens
Efficiency: N/A
Efficacy: 100.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 18.8
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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	104	98	93	88	100	95	90	86	88	85	81	82	79	77	77	75	72	69
2	94	84	77	70	90	81	74	68	76	70	65	71	66	62	66	62	59	56
3	85	73	64	57	81	71	63	56	66	59	54	62	56	51	58	53	49	46
4	77	64	55	48	74	62	54	47	58	51	45	55	48	43	51	46	42	39
5	71	57	48	41	68	56	47	40	52	44	39	49	42	37	46	40	36	33
6	65	51	42	35	63	50	41	35	47	39	34	44	37	32	42	36	31	29
7	60	46	37	31	58	45	37	31	43	35	30	40	34	29	38	32	28	25
8	56	42	34	28	54	41	33	27	39	32	26	37	30	25	35	29	25	23
9	52	39	30	25	50	38	30	24	36	29	24	34	27	23	32	26	22	20
10	49	36	28	22	47	35	27	22	33	26	21	31	25	21	30	24	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9436	9436	9436
5°	9483	9045	8996
10°	9422	8742	8617
15°	9292	8426	8227
20°	9127	8095	7857
25°	8964	7776	7519
30°	8735	7452	7184
35°	8503	7138	6940
40°	8260	6868	6697
45°	8027	6624	6487
50°	7781	6398	6277
55°	7520	6159	6066
60°	7199	5910	5843
65°	6868	5622	5584
70°	6494	5316	5305
75°	6016	5007	5044
80°	5270	4686	4772
85°	4526	4388	4541

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8027 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.0	2.5
10°-20°	134.7	7.1
20°-30°	204.1	10.8
30°-40°	248.5	13.1
40°-50°	267.4	14.1
50°-60°	259.7	13.7
60°-70°	226.8	12.0
70°-80°	174.5	9.2
80°-90°	116.9	6.2
90°-100°	80.7	4.3
100°-110°	58.9	3.1
110°-120°	38.9	2.1
120°-130°	21.7	1.1
130°-140°	9.1	0.5
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°	385.8	20.4
0°-40°	634.3	33.6
0°-60°	1161.4	61.4
0°-90°	1679.7	88.9
90°-120°	178.5	9.4
90°-150°	210.7	11.1
90°-180°	211.0	11.2
0°-180°	1890.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	495	495	495	495	495	
5°	497	495	490	495	494	47
15°	474	475	475	482	481	133
25°	431	436	442	451	453	198
35°	371	383	397	413	418	232
45°	304	324	349	371	378	235
55°	233	259	296	322	332	209
65°	159	195	237	266	276	158
75°	88	128	174	205	215	93
85°	26	70	116	146	156	27
90°	7	49	95	124	132	5
95°	6	40	83	110	118	4
105°	4	24	62	87	95	4
115°	3	11	43	65	72	3
125°	1	1	24	44	50	2
135°	1	1	8	23	29	1
145°	0	0	0	4	8	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°	495.4	495.4	495.4	495.4	495.4
2.5°	499.0	496.9	491.8	495.4	494.0
5°	496.9	494.7	490.4	494.7	494.0
7.5°	493.3	491.8	488.3	493.3	492.6
10°	489.0	487.5	485.4	491.1	490.4
12.5°	481.8	482.5	481.1	486.8	486.1
15°	473.9	475.3	475.3	481.8	481.1
17.5°	463.8	466.7	468.9	475.3	475.3
20°	453.8	457.4	460.3	468.2	468.2
22.5°	443.0	447.3	451.6	459.5	461.0
25°	430.8	435.8	442.3	450.9	453.1
27.5°	416.5	424.4	431.5	442.3	443.7
30°	402.1	411.4	420.8	432.3	434.4
32.5°	386.3	397.1	408.6	422.2	426.5
35°	371.2	383.4	397.1	412.9	417.9
37.5°	354.7	368.3	385.6	402.8	407.8
40°	338.2	354.0	373.4	392.0	398.5
42.5°	322.4	338.2	361.2	382.0	388.5
45°	304.4	323.8	349.0	371.2	378.4
47.5°	287.2	308.0	336.8	359.7	367.6
50°	269.3	291.5	323.8	348.2	356.1
52.5°	252.0	275.7	310.2	335.3	343.9
55°	233.4	259.2	296.5	322.4	331.7
57.5°	215.4	244.1	281.5	309.5	318.8
60°	196.0	226.9	267.8	295.1	305.2
62.5°	178.8	211.1	252.0	281.5	290.8
65°	159.4	194.6	236.9	266.4	275.7
67.5°	142.2	178.8	221.9	251.3	261.4
70°	123.5	160.8	205.4	236.2	244.8
72.5°	106.3	145.0	190.3	220.4	231.2
75°	88.3	128.5	174.5	205.4	214.7
77.5°	71.1	112.7	159.4	190.3	200.3
80°	53.9	97.7	144.3	174.5	184.5
82.5°	39.5	82.6	130.0	160.1	169.5
85°	25.8	70.4	116.3	146.5	156.5
87.5°	15.8	58.9	104.8	134.3	143.6
90°	7.2	48.8	94.8	123.5	132.1
92.5°	6.5	44.5	88.3	116.3	124.9
95°	5.7	39.5	82.6	109.9	118.5
97.5°	5.0	35.9	77.5	104.1	112.7
100°	5.0	31.6	71.8	98.4	106.3
102.5°	4.3	28.0	66.8	92.6	100.5
105°	3.6	24.4	61.8	86.9	94.8
107.5°	3.6	20.8	56.7	81.1	89.0
110°	2.9	17.2	52.4	75.4	83.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.9	14.4	47.4	70.4	78.3
115°	2.9	10.8	43.1	64.6	72.5
117.5°	2.2	7.9	38.1	59.6	66.8
120°	2.2	5.0	33.7	53.9	61.8
122.5°	2.2	2.9	29.4	48.8	55.3
125°	1.4	1.4	24.4	43.8	50.3
127.5°	1.4	0.7	20.1	38.1	44.5
130°	1.4	0.7	15.8	33.0	38.8
132.5°	1.4	0.7	11.5	28.0	33.7
135°	0.7	0.7	7.9	23.0	28.7
137.5°	0.7	0.7	4.3	18.0	23.0
140°	0.7	0.0	1.4	12.9	17.2
142.5°	0.7	0.0	0.0	8.6	12.2
145°	0.0	0.0	0.0	4.3	7.9
147.5°	0.0	0.0	0.0	0.7	2.9
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	16.02	17.50	16.54	18.03	18.61	19.08	20.56	19.61	21.09	21.67
	3H	17.52	18.87	18.06	19.41	20.03	21.71	23.06	22.25	23.60	24.22
	4H	18.02	19.30	18.58	19.86	20.49	22.99	24.27	23.55	24.83	25.46
	6H	18.33	19.53	18.91	20.10	20.74	24.32	25.52	24.89	26.08	26.73
	8H	18.41	19.56	18.99	20.15	20.80	25.00	26.15	25.58	26.74	27.39
	12H	18.45	19.55	19.04	20.13	20.81	25.75	26.86	26.34	27.44	28.12
4H	2H	17.13	18.41	17.69	18.97	19.60	19.47	20.76	20.03	21.31	21.94
	3H	18.88	19.99	19.46	20.58	21.23	22.31	23.41	22.88	24.01	24.66
	4H	19.53	20.54	20.12	21.14	21.82	23.75	24.76	24.34	25.37	26.05
	6H	19.98	20.88	20.59	21.50	22.20	25.26	26.16	25.87	26.78	27.47
	8H	20.11	20.95	20.72	21.58	22.28	26.04	26.88	26.65	27.51	28.21
	12H	20.18	20.95	20.82	21.60	22.31	26.91	27.68	27.54	28.33	29.04
8H	4H	20.37	21.22	20.99	21.84	22.55	23.95	24.79	24.56	25.42	26.12
	6H	21.03	21.75	21.68	22.42	23.13	25.61	26.33	26.26	26.99	27.70
	8H	21.27	21.91	21.92	22.59	23.31	26.51	27.16	27.17	27.84	28.56
	12H	21.43	22.01	22.09	22.67	23.46	27.55	28.13	28.21	28.79	29.58
12H	4H	20.60	21.37	21.24	22.02	22.73	23.95	24.72	24.59	25.37	26.08
	6H	21.38	22.03	22.03	22.70	23.42	25.64	26.29	26.30	26.97	27.69
	8H	21.71	22.29	22.37	22.96	23.74	26.61	27.19	27.27	27.85	28.64