

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: P243379

Luminaire Tested: S123DRP-H1165D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243379
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-54)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H1165D935-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

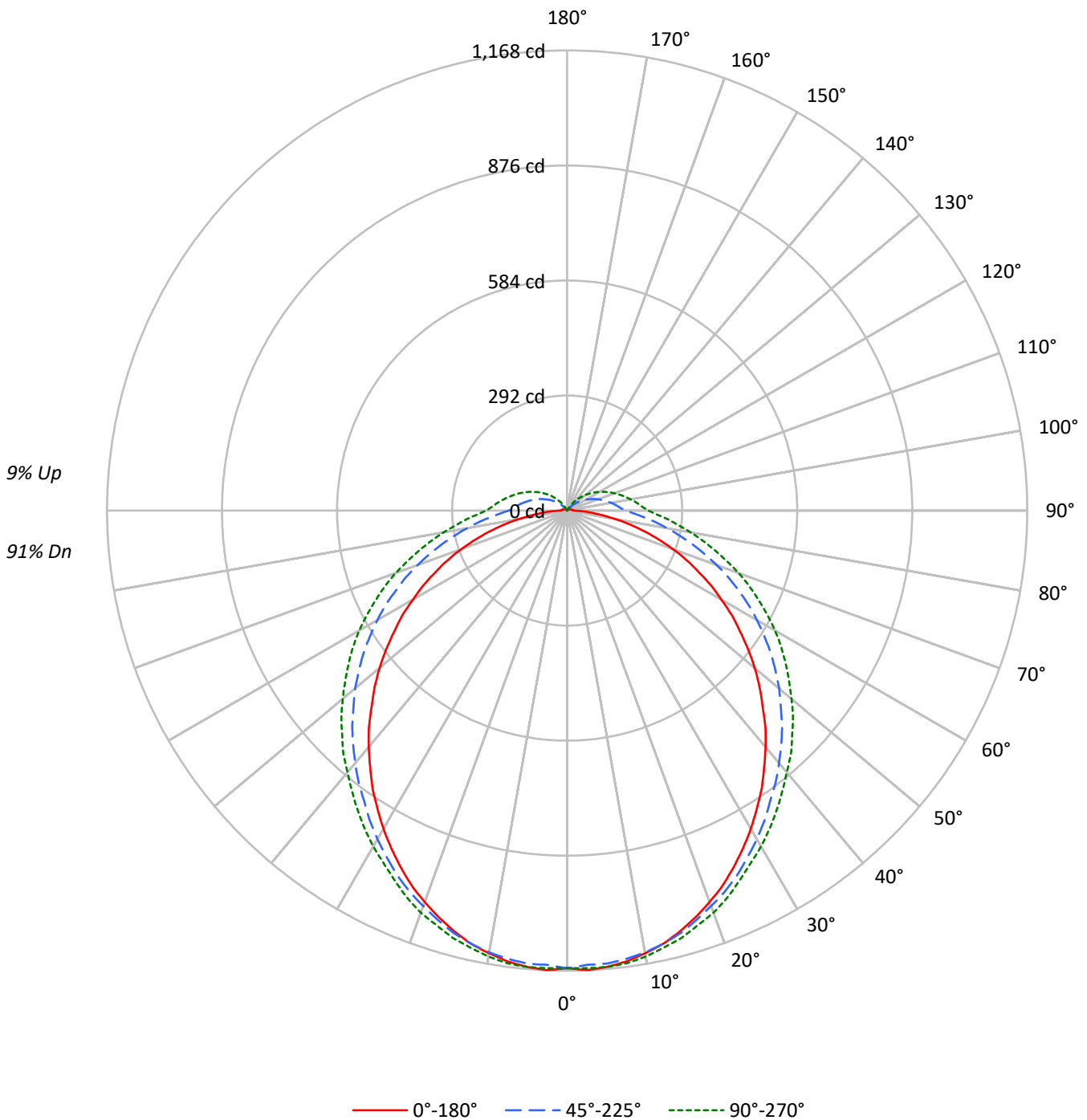
Lumens per Lamp: N/A
Luminaire Lumens: 3942.1 lumens
Efficiency: N/A
Efficacy: 104.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 37.7
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	0
RCR																		
0	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	91
1	105	100	95	90	101	96	92	88	91	87	84	85	82	80	80	78	76	73
2	95	86	79	72	91	83	77	71	78	73	68	74	69	65	69	66	62	60
3	86	75	66	60	83	73	65	58	69	62	56	65	59	54	61	56	52	50
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	45	42
5	72	59	50	43	70	57	49	42	54	47	41	51	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	31
7	62	48	39	33	60	47	38	32	44	37	32	42	36	31	40	34	30	28
8	57	44	35	29	55	43	34	29	41	33	28	39	32	27	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	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°	14078	14078	14078
5°	14121	13717	13711
10°	13989	13370	13294
15°	13796	12989	12838
20°	13532	12536	12376
25°	13231	12117	11841
30°	12892	11645	11390
35°	12553	11167	10942
40°	12179	10779	10513
45°	11767	10394	10155
50°	11423	10000	9783
55°	11000	9601	9417
60°	10557	9157	9061
65°	10095	8684	8626
70°	9564	8176	8201
75°	8770	7623	7701
80°	7758	7078	7260
85°	6899	6635	6927

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11767 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.3	2.8
10°-20°	314.4	8.0
20°-30°	470.8	11.9
30°-40°	563.4	14.3
40°-50°	590.8	15.0
50°-60°	555.4	14.1
60°-70°	464.8	11.8
70°-80°	333.6	8.5
80°-90°	199.8	5.1
90°-100°	126.7	3.2
100°-110°	93.4	2.4
110°-120°	62.5	1.6
120°-130°	36.0	0.9
130°-140°	16.6	0.4
140°-150°	3.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	895.5	22.7
0°-40°	1458.8	37.0
0°-60°	2604.9	66.1
0°-90°	3603.1	91.4
90°-120°	282.5	7.2
90°-150°	339.0	8.6
90°-180°	339.0	8.6
0°-180°	3942.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1161	1161	1161	1161	1161	
5°	1163	1161	1154	1164	1163	110
15°	1106	1113	1111	1125	1123	312
25°	999	1012	1021	1037	1036	460
35°	861	882	899	922	928	538
45°	701	736	772	798	808	543
55°	536	581	631	665	677	480
65°	368	423	480	522	535	365
75°	202	264	328	373	388	215
85°	62	126	196	241	257	63
90°	17	80	148	193	206	12
95°	13	65	128	170	183	11
105°	10	42	98	134	145	10
115°	6	22	69	100	111	7
125°	5	5	42	69	79	4
135°	2	1	18	40	47	2
145°	1	0	0	12	17	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°	1161.4	1161.4	1161.4	1161.4	1161.4
2.5°	1167.5	1163.9	1154.2	1165.1	1162.7
5°	1162.7	1161.4	1154.2	1163.9	1162.7
7.5°	1154.2	1154.2	1148.1	1159.0	1159.0
10°	1140.9	1144.5	1138.4	1150.5	1149.3
12.5°	1126.3	1131.2	1126.3	1139.6	1136.0
15°	1105.7	1113.0	1110.6	1125.1	1122.7
17.5°	1082.7	1091.2	1090.0	1104.5	1103.3
20°	1057.3	1068.2	1068.2	1082.7	1086.4
22.5°	1030.6	1042.8	1046.4	1060.9	1063.3
25°	999.2	1012.5	1021.0	1036.7	1035.5
27.5°	966.5	982.2	991.9	1008.8	1008.8
30°	932.5	950.7	962.8	981.0	984.6
32.5°	896.2	918.0	932.5	951.9	956.8
35°	861.1	881.7	898.6	921.6	927.7
37.5°	821.1	846.6	869.6	893.8	897.4
40°	783.6	811.4	836.9	862.3	867.1
42.5°	744.8	773.9	804.2	829.6	840.5
45°	701.2	736.3	771.5	798.1	807.8
47.5°	662.5	697.6	735.1	766.6	777.5
50°	621.3	657.6	702.4	732.7	743.6
52.5°	578.9	618.9	666.1	698.8	709.7
55°	536.5	581.3	631.0	664.9	677.0
57.5°	496.5	541.4	593.4	631.0	644.3
60°	451.7	501.4	555.9	594.6	609.2
62.5°	411.8	462.6	519.6	558.3	572.8
65°	368.2	422.7	479.6	522.0	535.3
67.5°	328.2	381.5	443.3	485.6	500.2
70°	285.8	341.5	403.3	446.9	462.6
72.5°	243.4	302.8	365.8	410.6	423.9
75°	202.3	264.0	328.2	373.0	387.6
77.5°	163.5	225.3	291.9	336.7	352.4
80°	124.7	188.9	258.0	302.8	318.5
82.5°	90.8	156.2	226.5	270.1	284.6
85°	61.8	126.0	196.2	241.0	256.8
87.5°	36.3	101.7	169.6	214.4	227.7
90°	17.0	79.9	147.8	192.6	205.9
92.5°	15.7	71.5	136.9	179.2	192.6
95°	13.3	65.4	128.4	169.6	182.9
97.5°	13.3	59.3	121.1	161.1	173.2
100°	12.1	53.3	113.8	151.4	163.5
102.5°	10.9	47.2	105.4	142.9	155.0
105°	9.7	42.4	98.1	134.4	145.3
107.5°	8.5	36.3	90.8	126.0	136.9
110°	8.5	31.5	83.6	117.5	128.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	7.3	26.6	76.3	109.0	119.9
115°	6.1	21.8	69.0	100.5	111.4
117.5°	6.1	17.0	61.8	93.3	102.9
120°	6.1	13.3	55.7	84.8	94.5
122.5°	4.8	8.5	49.7	77.5	87.2
125°	4.8	4.8	42.4	69.0	78.7
127.5°	3.6	2.4	36.3	61.8	70.2
130°	3.6	2.4	30.3	54.5	63.0
132.5°	2.4	2.4	24.2	47.2	55.7
135°	2.4	1.2	18.2	40.0	47.2
137.5°	2.4	1.2	12.1	32.7	40.0
140°	1.2	1.2	6.1	25.4	32.7
142.5°	1.2	0.0	1.2	19.4	25.4
145°	1.2	0.0	0.0	12.1	17.0
147.5°	1.2	0.0	0.0	6.1	10.9
150°	1.2	0.0	0.0	0.0	3.6
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	18.22	19.73	18.72	20.21	20.73	20.29	21.79	20.78	22.28	22.80
	3H	19.78	21.15	20.28	21.64	22.20	22.69	24.06	23.19	24.55	25.11
	4H	20.30	21.60	20.83	22.11	22.69	23.80	25.10	24.33	25.61	26.19
	6H	20.64	21.85	21.18	22.37	22.96	24.93	26.14	25.47	26.66	27.25
	8H	20.73	21.89	21.28	22.43	23.03	25.49	26.65	26.04	27.20	27.79
	12H	20.78	21.89	21.33	22.43	23.05	26.11	27.22	26.67	27.76	28.39
4H	2H	19.14	20.44	19.66	20.95	21.52	20.74	22.04	21.27	22.55	23.13
	3H	20.94	22.05	21.48	22.60	23.20	23.35	24.46	23.89	25.01	25.61
	4H	21.61	22.62	22.17	23.18	23.81	24.63	25.64	25.19	26.20	26.83
	6H	22.08	22.97	22.66	23.56	24.20	25.93	26.82	26.51	27.41	28.05
	8H	22.21	23.05	22.80	23.64	24.30	26.59	27.43	27.17	28.02	28.67
	12H	22.30	23.06	22.91	23.68	24.34	27.32	28.08	27.92	28.70	29.36
8H	4H	22.25	23.09	22.84	23.68	24.34	24.85	25.69	25.43	26.28	26.93
	6H	22.91	23.62	23.53	24.25	24.91	26.31	27.02	26.93	27.65	28.31
	8H	23.14	23.78	23.77	24.42	25.10	27.10	27.74	27.72	28.38	29.05
	12H	23.31	23.89	23.94	24.51	25.25	27.99	28.56	28.62	29.19	29.93
12H	4H	22.41	23.18	23.02	23.79	24.45	24.86	25.62	25.47	26.24	26.90
	6H	23.16	23.80	23.79	24.44	25.11	26.35	26.99	26.98	27.63	28.31
	8H	23.48	24.06	24.11	24.68	25.42	27.20	27.77	27.83	28.40	29.14