

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: P242507

Luminaire Tested: S123DRP-S775D840-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242507
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-15)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-S775D840-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

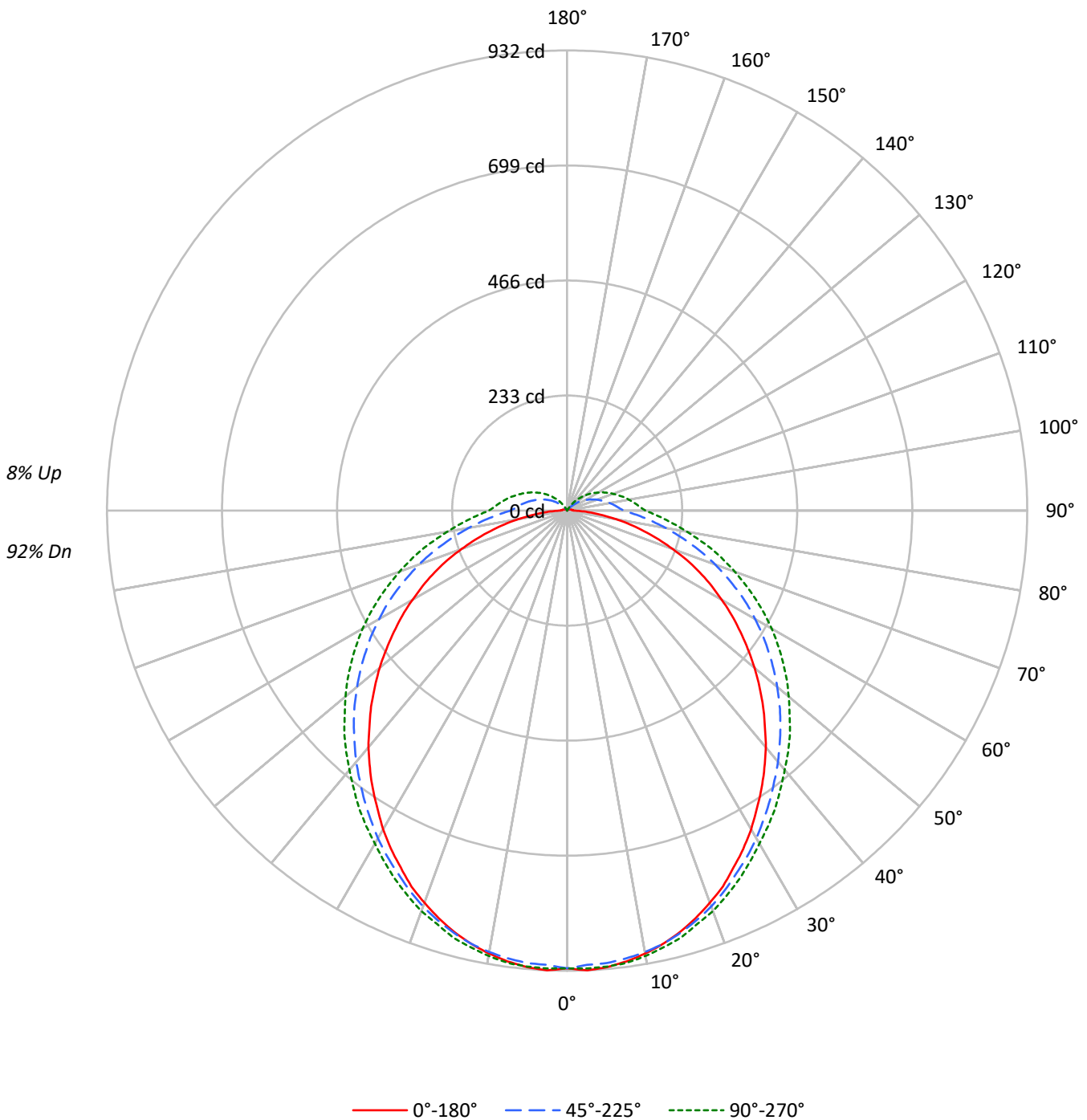
Lumens per Lamp: N/A
Luminaire Lumens: 3115.6 lumens
Efficiency: N/A
Efficacy: 118.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

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

TEST NUMBER: P242507

CATALOG NUMBER: S123DRP-S775D840-X4F0-XX-UDD-D-W

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	92
1	105	100	95	90	102	97	92	88	91	87	84	85	82	80	80	78	76	73
2	95	86	79	72	92	83	77	71	79	73	68	74	69	65	70	66	63	60
3	86	75	67	60	83	73	65	59	69	62	56	65	59	54	61	56	52	50
4	79	66	57	50	76	64	56	49	61	54	48	57	51	46	54	49	45	42
5	72	59	50	43	70	58	49	42	54	47	41	52	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	38	34	32
7	62	48	39	33	60	47	38	32	45	37	32	42	36	31	40	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	28	24	22
10	50	37	29	24	49	36	29	24	35	28	23	33	27	23	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11238	11238	11238
5°	11271	10934	10933
10°	11169	10663	10594
15°	11025	10359	10231
20°	10819	10014	9835
25°	10564	9623	9424
30°	10304	9271	9007
35°	10011	8898	8671
40°	9731	8559	8313
45°	9423	8232	8023
50°	9116	7907	7706
55°	8779	7576	7417
60°	8449	7236	7120
65°	8113	6875	6770
70°	7603	6469	6409
75°	6963	6004	6040
80°	6222	5542	5617
85°	5526	5191	5338

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9423 cd/sqm



TEST NUMBER: P242507

CATALOG NUMBER: S123DRP-S775D840-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.9	2.8
10°-20°	250.7	8.0
20°-30°	374.9	12.0
30°-40°	447.6	14.4
40°-50°	468.3	15.0
50°-60°	439.5	14.1
60°-70°	367.1	11.8
70°-80°	262.5	8.4
80°-90°	156.2	5.0
90°-100°	98.1	3.2
100°-110°	72.1	2.3
110°-120°	48.2	1.5
120°-130°	27.5	0.9
130°-140°	12.3	0.4
140°-150°	2.6	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	713.5	22.9
0°-40°	1161.2	37.3
0°-60°	2069.0	66.4
0°-90°	2854.8	91.6
90°-120°	218.5	7.0
90°-150°	260.8	8.4
90°-180°	261.0	8.4
0°-180°	3115.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	927	927	927	927	927	
5°	928	926	920	928	927	88
15°	884	887	886	896	895	249
25°	798	808	811	824	824	368
35°	687	703	716	731	735	429
45°	562	586	611	630	638	433
55°	428	462	498	525	533	383
65°	296	335	380	410	420	292
75°	161	208	258	292	304	172
85°	50	100	154	188	198	51
90°	13	63	114	148	158	9
95°	11	50	100	131	141	9
105°	8	32	76	104	113	8
115°	5	17	54	78	86	5
125°	3	3	32	54	61	3
135°	2	1	12	30	35	2
145°	1	0	0	8	12	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°	927.1	927.1	927.1	927.1	927.1
2.5°	932.1	929.1	921.0	929.1	928.1
5°	928.1	926.0	920.0	928.1	927.1
7.5°	921.0	921.0	914.9	925.0	924.0
10°	910.9	912.9	907.9	918.0	915.9
12.5°	898.8	901.8	898.8	907.9	905.8
15°	883.6	886.7	885.7	895.8	894.7
17.5°	865.5	871.5	870.5	879.6	877.6
20°	845.3	851.3	853.3	862.4	863.4
22.5°	824.1	830.1	833.1	845.3	844.2
25°	797.8	807.9	810.9	824.1	824.1
27.5°	772.5	783.7	789.7	800.8	801.8
30°	745.3	758.4	766.5	778.6	778.6
32.5°	715.0	730.1	741.2	754.4	757.4
35°	686.7	702.9	716.0	731.1	735.2
37.5°	656.4	674.6	689.7	706.9	709.9
40°	626.1	644.3	664.5	681.7	685.7
42.5°	592.8	616.0	637.2	656.4	662.5
45°	561.5	585.7	611.0	630.2	638.2
47.5°	528.2	555.4	583.7	604.9	611.0
50°	495.8	524.1	555.4	578.7	585.7
52.5°	461.5	491.8	527.1	551.4	560.5
55°	428.2	461.5	497.9	525.1	533.2
57.5°	395.9	430.2	469.6	496.9	505.9
60°	361.5	397.9	439.3	467.6	478.7
62.5°	329.2	366.6	411.0	439.3	449.4
65°	295.9	335.3	379.7	410.0	420.1
67.5°	262.6	304.0	348.4	381.7	389.8
70°	227.2	270.6	319.1	351.4	361.5
72.5°	194.9	238.3	288.8	322.1	332.2
75°	160.6	208.0	258.5	291.9	304.0
77.5°	131.3	178.7	229.2	264.6	273.7
80°	100.0	149.5	202.0	236.3	246.4
82.5°	72.7	123.2	176.7	211.1	221.2
85°	49.5	100.0	153.5	187.8	197.9
87.5°	30.3	80.8	132.3	166.6	176.7
90°	13.1	62.6	114.1	148.5	158.5
92.5°	12.1	55.5	106.0	139.4	148.5
95°	11.1	50.5	100.0	131.3	141.4
97.5°	10.1	46.5	93.9	124.2	134.3
100°	9.1	41.4	87.9	117.1	127.2
102.5°	8.1	36.4	81.8	110.1	120.2
105°	8.1	32.3	75.7	104.0	113.1
107.5°	7.1	28.3	69.7	96.9	106.0
110°	6.1	24.2	64.6	90.9	99.0



TEST NUMBER: P242507

CATALOG NUMBER: S123DRP-S775D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.1	20.2	58.6	83.8	92.9
115°	5.0	17.2	53.5	77.8	85.8
117.5°	5.0	13.1	47.5	71.7	79.8
120°	4.0	9.1	42.4	65.6	72.7
122.5°	4.0	6.1	37.4	59.6	66.7
125°	3.0	3.0	32.3	53.5	60.6
127.5°	3.0	2.0	27.3	47.5	54.5
130°	3.0	2.0	22.2	41.4	47.5
132.5°	2.0	2.0	17.2	35.3	42.4
135°	2.0	1.0	12.1	30.3	35.3
137.5°	2.0	1.0	8.1	24.2	29.3
140°	1.0	1.0	4.0	19.2	24.2
142.5°	1.0	0.0	0.0	13.1	18.2
145°	1.0	0.0	0.0	8.1	12.1
147.5°	0.0	0.0	0.0	3.0	7.1
150°	0.0	0.0	0.0	0.0	2.0
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	17.46	18.96	17.95	19.44	19.96	19.45	20.96	19.94	21.44	21.96
	3H	19.01	20.39	19.52	20.88	21.43	21.83	23.20	22.33	23.69	24.25
	4H	19.54	20.84	20.06	21.34	21.91	22.95	24.25	23.47	24.75	25.32
	6H	19.88	21.09	20.42	21.61	22.20	24.05	25.26	24.59	25.78	26.37
	8H	19.97	21.13	20.52	21.67	22.26	24.61	25.77	25.16	26.31	26.90
	12H	20.02	21.13	20.57	21.67	22.29	25.21	26.33	25.77	26.86	27.49
4H	2H	18.36	19.66	18.89	20.17	20.74	19.91	21.21	20.44	21.72	22.29
	3H	20.17	21.27	20.70	21.82	22.41	22.51	23.61	23.04	24.16	24.76
	4H	20.83	21.84	21.38	22.40	23.03	23.77	24.79	24.33	25.35	25.97
	6H	21.30	22.20	21.88	22.78	23.42	25.06	25.95	25.63	26.54	27.17
	8H	21.44	22.28	22.02	22.87	23.52	25.71	26.55	26.29	27.13	27.78
	12H	21.53	22.29	22.13	22.90	23.56	26.43	27.19	27.03	27.80	28.46
8H	4H	21.46	22.30	22.04	22.89	23.54	24.00	24.84	24.58	25.43	26.08
	6H	22.12	22.83	22.73	23.46	24.11	25.44	26.15	26.05	26.78	27.43
	8H	22.35	22.99	22.98	23.63	24.30	26.22	26.86	26.84	27.50	28.16
	12H	22.52	23.10	23.15	23.72	24.46	27.10	27.67	27.73	28.30	29.03
12H	4H	21.62	22.38	22.22	22.99	23.65	24.01	24.77	24.61	25.39	26.04
	6H	22.36	23.00	22.99	23.64	24.31	25.48	26.12	26.11	26.76	27.43
	8H	22.69	23.26	23.31	23.88	24.62	26.32	26.90	26.95	27.52	28.25