

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P917471

Luminaire Tested: DFN2DIP-SQ3F0-100D040US930-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P917471
REPORT IS A COMBINATION OF REPORTS P901394 AND P898289
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-100D040US930-RLLONL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

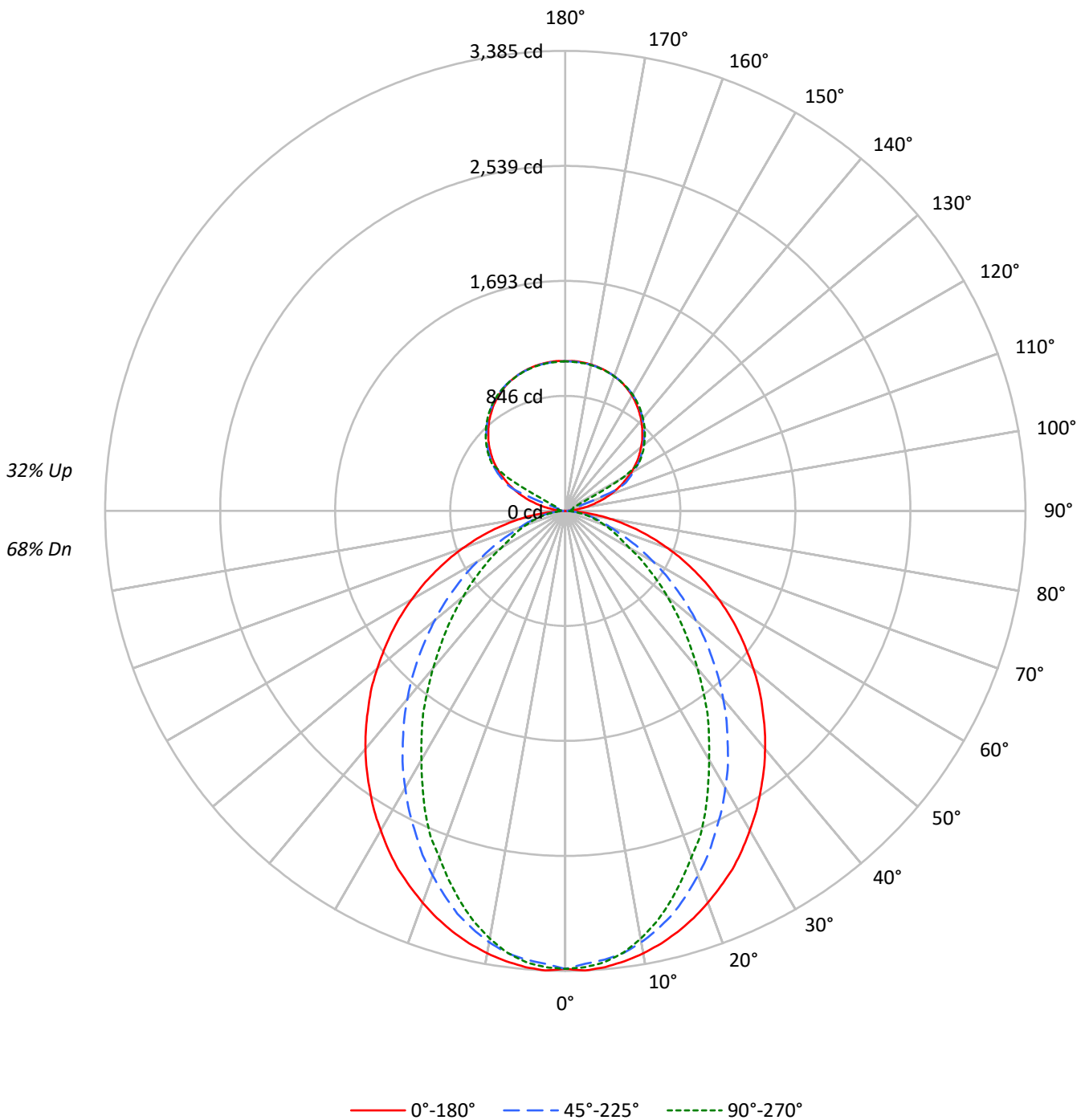
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10158.6 lumens
Efficiency: N/A
Efficacy: 78.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 128.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
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	50	30	10	0
RCR																					
0	111	111	111	111	105	105	105	105	93	93	93	83	83	83	73	73	73	68			68
1	103	98	95	91	97	93	90	87	83	81	78	74	72	70	65	64	63	59			59
2	94	87	81	76	88	82	77	72	74	69	66	66	63	60	58	56	54	50			50
3	86	77	70	64	81	73	66	61	66	60	56	59	55	51	52	49	47	43			43
4	79	69	61	55	75	65	58	53	59	53	49	53	48	45	47	44	41	38			38
5	73	62	53	48	69	59	51	46	53	47	42	48	43	39	43	39	36	33			33
6	68	56	47	42	64	53	46	40	48	42	38	43	39	35	39	35	32	30			30
7	63	50	43	37	59	48	41	36	44	38	33	40	35	31	36	32	29	26			26
8	58	46	38	33	55	44	37	32	40	34	30	37	32	28	33	29	26	24			24
9	55	42	35	30	52	41	34	29	37	31	27	34	29	25	31	27	24	22			22
10	51	39	32	27	48	37	31	26	34	29	25	31	27	23	29	25	22	20			20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3861	3861	3861
5°	3865	3797	3823
10°	3824	3720	3697
15°	3769	3595	3504
20°	3697	3423	3267
25°	3623	3231	3038
30°	3525	3034	2748
35°	3428	2822	2494
40°	3330	2604	2202
45°	3216	2362	1938
50°	3098	2118	1680
55°	2974	1857	1432
60°	2831	1585	1178
65°	2666	1309	1058
70°	2466	1051	956
75°	2214	921	867
80°	1850	765	748
85°	1254	498	554

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3216 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	315.8	3.1
10°-20°	866.9	8.5
20°-30°	1217.2	12.0
30°-40°	1326.8	13.1
40°-50°	1219.5	12.0
50°-60°	957.7	9.4
60°-70°	623.4	6.1
70°-80°	320.9	3.2
80°-90°	83.9	0.8
90°-100°	36.3	0.4
100°-110°	135.3	1.3
110°-120°	358.8	3.5
120°-130°	595.1	5.9
130°-140°	632.1	6.2
140°-150°	587.5	5.8
150°-160°	472.3	4.6
160°-170°	304.4	3.0
170°-180°	104.8	1.0
0°-30°	2399.9	23.6
0°-40°	3726.7	36.7
0°-60°	5903.9	58.1
0°-90°	6932.0	68.2
90°-120°	530.4	5.2
90°-150°	2345.2	23.1
90°-180°	3227.0	31.8
0°-180°	10158.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3370	3370	3370	3370	3370	
5°	3370	3354	3315	3342	3333	320
15°	3205	3171	3068	3010	2979	903
25°	2909	2812	2610	2485	2440	1338
35°	2507	2351	2083	1891	1823	1569
45°	2049	1845	1525	1308	1235	1583
55°	1558	1320	991	808	750	1392
65°	1052	805	531	427	418	1043
75°	561	348	244	223	220	593
85°	131	67	58	58	58	150
90°	1	10	16	20	21	10
95°	52	25	31	35	34	61
105°	242	266	49	57	60	259
115°	458	471	491	123	65	451
125°	647	658	673	679	681	577
135°	801	814	821	829	828	619
145°	929	929	942	948	944	581
155°	1023	1016	1026	1030	1024	472
165°	1078	1074	1076	1082	1076	305
175°	1103	1097	1099	1105	1097	105
180°	1101	1101	1101	1101	1101	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3369.6	3369.6	3369.6	3369.6	3369.6
2.5°	3384.8	3369.6	3336.0	3366.7	3360.6
5°	3369.6	3354.4	3314.6	3342.2	3333.0
7.5°	3342.2	3324.0	3281.2	3293.2	3278.1
10°	3305.5	3284.2	3223.4	3214.0	3195.9
12.5°	3260.0	3232.4	3149.9	3131.8	3098.1
15°	3204.9	3171.3	3067.7	3009.8	2979.4
17.5°	3140.9	3092.0	2963.9	2896.9	2848.1
20°	3067.7	3006.6	2854.2	2778.2	2710.9
22.5°	2988.5	2918.3	2741.3	2637.8	2592.2
25°	2909.2	2811.6	2610.3	2485.4	2439.5
27.5°	2814.7	2710.9	2488.3	2345.0	2274.8
30°	2714.1	2597.9	2354.0	2198.8	2116.3
32.5°	2616.5	2476.0	2226.3	2043.1	1966.7
35°	2506.7	2351.2	2082.9	1890.8	1823.4
37.5°	2400.0	2232.0	1948.6	1738.1	1662.0
40°	2287.1	2104.3	1808.2	1591.8	1512.5
42.5°	2171.2	1976.1	1668.2	1442.3	1366.3
45°	2049.3	1844.8	1524.9	1308.1	1234.9
47.5°	1933.5	1717.0	1387.6	1170.8	1103.9
50°	1805.3	1588.9	1253.4	1042.8	979.0
52.5°	1680.1	1451.4	1125.3	924.0	866.1
55°	1558.1	1320.4	991.0	808.2	750.2
57.5°	1433.3	1189.3	872.3	701.4	652.6
60°	1305.1	1061.2	747.1	591.7	542.9
62.5°	1180.2	936.3	640.3	494.1	469.8
65°	1052.1	804.9	530.6	427.1	417.7
67.5°	930.2	683.0	427.1	375.0	365.9
70°	802.0	564.3	353.6	323.2	311.0
72.5°	680.0	454.2	295.7	271.4	265.3
75°	561.0	347.5	243.9	222.6	219.6
77.5°	442.3	246.9	192.2	179.9	173.7
80°	332.2	177.0	146.3	134.3	134.3
82.5°	231.6	119.0	100.6	94.5	94.5
85°	131.0	66.9	57.9	57.9	57.9
87.5°	48.8	24.3	24.3	21.4	21.4
90°	0.7	9.5	15.9	20.0	21.4
92.5°	20.0	16.7	19.1	20.7	21.4
95°	51.7	25.4	31.0	35.1	34.2
97.5°	93.2	27.9	40.6	43.0	43.8
100°	141.0	31.9	45.4	51.7	53.3
102.5°	193.5	192.0	47.0	55.7	58.1
105°	242.1	266.0	48.6	57.3	60.5
107.5°	298.6	318.5	50.2	58.9	62.1
110°	352.9	369.5	139.4	59.8	62.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	403.8	418.1	404.6	61.3	63.8
115°	457.9	471.4	491.4	122.6	65.4
117.5°	504.9	520.8	534.4	420.4	211.8
120°	557.5	569.4	583.8	593.4	485.8
122.5°	602.0	614.8	630.8	635.5	636.3
125°	647.4	657.9	672.9	678.6	680.9
127.5°	688.8	700.0	712.0	720.0	720.7
130°	727.9	740.7	749.3	758.1	757.4
132.5°	767.7	778.1	786.8	794.0	793.3
135°	801.2	814.0	821.1	829.1	827.5
137.5°	836.2	845.7	853.8	861.7	859.3
140°	870.4	876.9	885.6	892.8	888.8
142.5°	899.2	904.7	915.1	921.4	917.5
145°	929.4	928.6	942.1	947.7	943.7
147.5°	955.6	953.2	966.8	970.8	967.7
150°	981.1	975.6	988.4	993.1	989.1
152.5°	1002.7	996.3	1008.2	1013.0	1007.5
155°	1023.4	1016.3	1025.8	1030.5	1024.2
157.5°	1040.1	1033.7	1041.0	1046.5	1040.1
160°	1054.4	1049.6	1054.4	1059.2	1053.6
162.5°	1067.1	1062.4	1066.4	1072.0	1064.8
165°	1078.3	1073.6	1075.9	1081.5	1075.9
167.5°	1087.1	1082.2	1084.8	1090.3	1083.1
170°	1094.3	1089.5	1091.0	1096.7	1089.5
172.5°	1099.0	1094.3	1095.9	1101.5	1094.3
175°	1102.9	1097.4	1099.0	1104.6	1096.7
177.5°	1104.6	1099.0	1099.8	1105.5	1098.3
180°	1100.7	1100.7	1100.7	1100.7	1100.7



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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	13.36	14.37	14.15	15.17	16.16	9.32	10.33	10.11	11.13	12.12
	3H	15.05	15.95	15.85	16.76	17.78	10.52	11.42	11.32	12.23	13.25
	4H	15.66	16.51	16.48	17.33	18.36	10.97	11.82	11.79	12.64	13.67
	6H	16.09	16.87	16.92	17.70	18.74	11.30	12.08	12.13	12.91	13.95
	8H	16.22	16.96	17.06	17.81	18.85	11.39	12.13	12.23	12.98	14.02
	12H	16.28	16.99	17.13	17.83	18.90	11.43	12.14	12.28	12.99	14.05
4H	2H	13.40	14.25	14.22	15.07	16.10	9.94	10.78	10.76	11.61	12.64
	3H	15.24	15.94	16.08	16.80	17.85	11.29	12.00	12.13	12.86	13.90
	4H	15.93	16.57	16.78	17.43	18.50	11.84	12.48	12.69	13.34	14.41
	6H	16.45	17.01	17.32	17.89	18.96	12.27	12.82	13.13	13.70	14.77
	8H	16.63	17.14	17.50	18.02	19.11	12.39	12.91	13.26	13.79	14.87
	12H	16.73	17.19	17.62	18.09	19.18	12.46	12.93	13.35	13.82	14.92
8H	4H	15.91	16.43	16.78	17.30	18.39	12.13	12.65	13.00	13.52	14.61
	6H	16.48	16.91	17.38	17.82	18.91	12.65	13.08	13.55	13.99	15.08
	8H	16.69	17.07	17.60	17.98	19.09	12.84	13.21	13.74	14.13	15.23
	12H	16.84	17.17	17.74	18.07	19.23	12.96	13.29	13.87	14.19	15.35
12H	4H	15.87	16.34	16.76	17.23	18.32	12.15	12.61	13.03	13.50	14.60
	6H	16.46	16.83	17.36	17.74	18.85	12.70	13.08	13.61	13.99	15.09
	8H	16.68	17.01	17.59	17.92	19.07	12.91	13.24	13.82	14.15	15.31