

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: P917118

Luminaire Tested: DFN2DIP-SQ2F0-030D050US930-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P917118
REPORT IS A COMBINATION OF REPORTS P899796 AND P896659
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-030D050US930-RLLFLL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

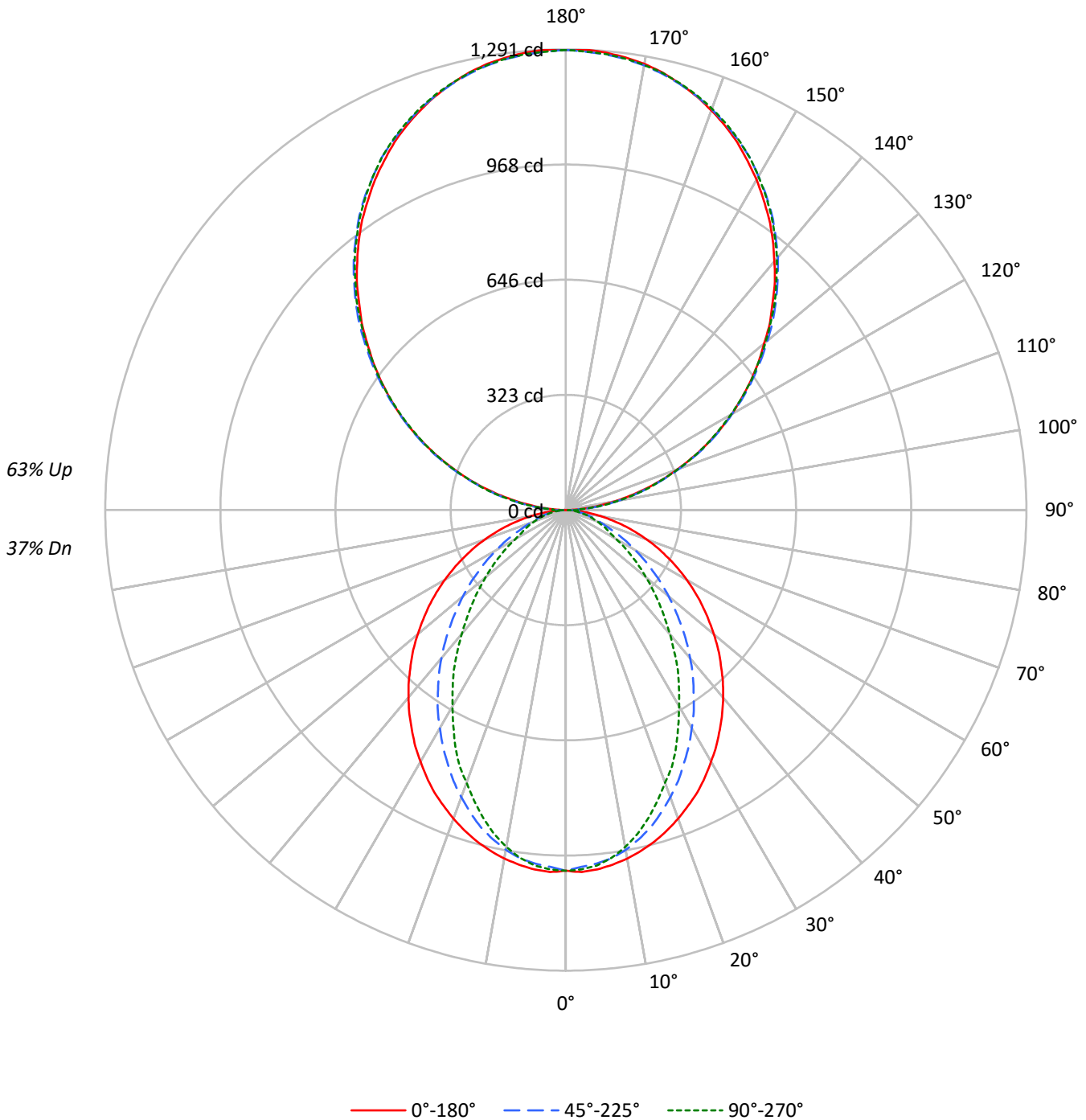
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5686.7 lumens
Efficiency: N/A
Efficacy: 94.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 60.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9963
Total Harmonic Distortion (THDi): 0.065
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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37			37
1	95	91	87	84	86	83	80	77	67	65	63	53	51	50	39	38	38	32			32
2	87	80	74	69	79	73	68	63	59	56	53	47	44	42	35	34	32	27			27
3	79	70	64	58	72	64	58	53	52	48	45	41	39	36	31	29	28	23			23
4	73	63	55	49	66	57	51	46	47	42	38	37	34	31	28	26	24	20			20
5	67	56	48	42	60	51	44	39	42	37	33	33	30	27	26	23	21	18			18
6	62	50	42	37	56	46	39	34	38	33	29	30	27	24	23	21	19	16			16
7	57	45	38	32	52	41	35	30	34	29	26	28	24	21	21	19	17	14			14
8	53	41	34	29	48	38	31	27	31	26	23	25	22	19	20	17	15	13			13
9	49	38	30	25	45	34	28	24	29	24	20	23	20	17	18	16	14	12			12
10	46	34	27	23	42	32	25	21	26	22	18	22	18	16	17	14	13	11			11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2223	2223	2223
5°	2223	2183	2198
10°	2197	2135	2124
15°	2163	2060	2010
20°	2119	1958	1872
25°	2074	1845	1739
30°	2015	1729	1571
35°	1957	1605	1424
40°	1898	1478	1255
45°	1829	1337	1102
50°	1758	1195	953
55°	1683	1044	811
60°	1597	887	664
65°	1497	728	594
70°	1376	580	534
75°	1223	502	479
80°	1005	408	406
85°	654	254	289

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1829 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.7	1.7
10°-20°	260.1	4.6
20°-30°	365.1	6.4
30°-40°	398.0	7.0
40°-50°	365.8	6.4
50°-60°	287.3	5.1
60°-70°	187.0	3.3
70°-80°	96.3	1.7
80°-90°	28.3	0.5
90°-100°	79.8	1.4
100°-110°	253.5	4.5
110°-120°	433.8	7.6
120°-130°	570.5	10.0
130°-140°	640.4	11.3
140°-150°	627.9	11.0
150°-160°	526.8	9.3
160°-170°	349.3	6.1
170°-180°	122.1	2.1
0°-30°	720.0	12.7
0°-40°	1118.0	19.7
0°-60°	1771.2	31.1
0°-90°	2082.7	36.6
90°-120°	767.0	13.5
90°-150°	2605.8	45.8
90°-180°	3604.0	63.4
0°-180°	5686.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1011	1011	1011	1011	1011	
5°	1011	1006	994	1003	1000	96
15°	962	951	920	903	894	271
25°	873	843	783	746	732	401
35°	752	705	625	567	547	471
45°	615	553	458	392	370	475
55°	467	396	297	242	225	418
65°	316	242	159	128	125	313
75°	168	104	73	67	66	178
85°	39	20	17	17	17	45
90°	1	14	38	36	37	6
95°	57	68	70	70	68	63
105°	234	237	240	241	241	247
115°	435	442	440	438	435	431
125°	633	643	640	636	635	566
135°	819	831	833	832	829	633
145°	994	1002	1008	1009	1005	621
155°	1137	1140	1144	1149	1145	523
165°	1237	1236	1236	1243	1238	349
175°	1287	1284	1282	1289	1283	122
180°	1289	1289	1289	1289	1289	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1010.9	1010.9	1010.9	1010.9	1010.9
2.5°	1015.5	1010.9	1000.8	1010.0	1008.2
5°	1010.9	1006.3	994.4	1002.7	999.9
7.5°	1002.7	997.2	984.4	988.0	983.4
10°	991.6	985.3	967.0	964.2	958.8
12.5°	978.0	969.7	945.0	939.5	929.4
15°	961.5	951.4	920.3	902.9	893.8
17.5°	942.2	927.6	889.2	869.1	854.4
20°	920.3	902.0	856.2	833.5	813.3
22.5°	896.6	875.5	822.4	791.3	777.6
25°	872.8	843.4	783.1	745.6	731.8
27.5°	844.4	813.3	746.5	703.5	682.4
30°	814.2	779.4	706.2	659.7	634.9
32.5°	784.9	742.8	667.9	612.9	590.0
35°	752.0	705.3	624.8	567.2	547.1
37.5°	720.0	669.6	584.6	521.4	498.6
40°	686.2	631.3	542.5	477.5	453.8
42.5°	651.3	592.9	500.4	432.7	409.9
45°	614.8	553.4	457.5	392.4	370.5
47.5°	580.0	515.1	416.3	351.2	331.2
50°	541.6	476.6	376.0	312.8	293.7
52.5°	504.0	435.5	337.6	277.2	259.8
55°	467.4	396.1	297.3	242.5	225.1
57.5°	430.0	356.8	261.7	210.4	195.8
60°	391.5	318.4	224.1	177.5	162.9
62.5°	354.1	280.9	192.1	148.2	141.0
65°	315.6	241.5	159.1	128.1	125.3
67.5°	279.1	204.9	128.1	112.5	109.7
70°	240.6	169.3	106.1	96.9	93.3
72.5°	204.0	136.2	88.7	81.4	79.6
75°	168.3	104.3	73.2	66.8	65.9
77.5°	132.6	74.0	57.6	54.0	52.1
80°	99.7	53.1	43.9	40.3	40.3
82.5°	69.5	35.7	30.2	28.4	28.4
85°	39.3	20.1	17.4	17.4	17.4
87.5°	14.7	7.3	7.3	6.4	6.4
90°	1.1	14.0	38.1	35.8	36.9
92.5°	24.1	32.6	33.8	35.0	35.0
95°	56.7	67.7	69.5	69.5	67.7
97.5°	94.4	104.5	108.8	108.8	108.8
100°	137.9	146.9	150.0	150.0	148.9
102.5°	183.8	190.5	194.7	195.9	194.7
105°	234.0	237.1	239.5	241.3	241.3
107.5°	283.7	288.4	288.4	289.2	283.7
110°	331.9	338.2	338.2	338.2	335.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	384.0	390.6	389.5	386.4	384.0
115°	435.3	441.6	439.6	438.5	435.3
117.5°	486.2	494.8	489.3	486.2	483.1
120°	537.5	546.1	537.5	537.5	534.0
122.5°	584.2	595.1	589.6	586.5	584.2
125°	633.2	642.9	639.8	636.3	635.1
127.5°	680.9	693.0	688.8	684.0	680.9
130°	725.7	739.6	737.7	735.4	731.1
132.5°	775.8	786.7	787.5	782.0	778.9
135°	819.0	831.0	833.3	832.2	829.1
137.5°	867.2	876.9	878.8	878.0	873.3
140°	909.5	919.2	924.6	924.6	920.4
142.5°	953.0	962.8	965.9	967.0	962.8
145°	994.3	1002.0	1008.2	1009.4	1005.1
147.5°	1031.2	1040.9	1045.5	1047.5	1043.2
150°	1069.3	1075.9	1080.1	1083.6	1080.1
152.5°	1103.1	1109.7	1115.1	1119.4	1115.1
155°	1136.9	1140.0	1143.5	1148.9	1145.4
157.5°	1166.0	1168.3	1170.3	1178.1	1172.6
160°	1192.0	1194.4	1195.6	1202.2	1197.5
162.5°	1216.2	1216.2	1217.3	1224.7	1219.3
165°	1236.8	1235.6	1235.6	1243.4	1237.9
167.5°	1255.4	1251.9	1251.9	1259.7	1254.3
170°	1269.4	1266.3	1265.2	1272.9	1266.3
172.5°	1279.1	1276.0	1274.9	1282.6	1276.0
175°	1286.9	1283.8	1281.5	1289.2	1282.6
177.5°	1291.2	1288.1	1285.7	1292.3	1285.7
180°	1289.2	1289.2	1289.2	1289.2	1289.2



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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	8.41	9.14	9.48	10.21	11.66	4.37	5.10	5.44	6.17	7.62
	3H	10.06	10.72	11.14	11.79	13.26	5.53	6.19	6.61	7.26	8.73
	4H	10.65	11.27	11.74	12.35	13.83	5.97	6.59	7.06	7.66	9.14
	6H	11.05	11.62	12.15	12.70	14.19	6.27	6.84	7.37	7.92	9.41
	8H	11.17	11.71	12.27	12.81	14.29	6.35	6.89	7.45	7.99	9.47
	12H	11.22	11.73	12.33	12.82	14.33	6.38	6.89	7.49	7.98	9.49
4H	2H	8.41	9.03	9.51	10.11	11.59	4.94	5.56	6.04	6.64	8.12
	3H	10.21	10.73	11.31	11.83	13.32	6.26	6.78	7.37	7.88	9.37
	4H	10.88	11.36	11.99	12.45	13.96	6.79	7.27	7.90	8.36	9.87
	6H	11.37	11.78	12.49	12.90	14.40	7.19	7.59	8.30	8.71	10.21
	8H	11.54	11.91	12.65	13.02	14.54	7.30	7.68	8.42	8.79	10.31
	12H	11.62	11.96	12.75	13.08	14.60	7.35	7.70	8.49	8.82	10.34
8H	4H	10.84	11.22	11.95	12.33	13.85	7.05	7.43	8.17	8.54	10.06
	6H	11.38	11.69	12.52	12.84	14.36	7.54	7.86	8.68	9.01	10.52
	8H	11.58	11.86	12.73	12.99	14.52	7.72	7.99	8.86	9.13	10.66
	12H	11.70	11.94	12.85	13.07	14.64	7.82	8.06	8.97	9.19	10.76
12H	4H	10.79	11.13	11.92	12.25	13.77	7.05	7.39	8.18	8.52	10.04
	6H	11.35	11.63	12.50	12.76	14.29	7.59	7.86	8.73	8.99	10.53
	8H	11.56	11.80	12.70	12.92	14.50	7.78	8.02	8.92	9.15	10.72