

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: P919860

Luminaire Tested: DFN2DIP-SQ2F0-040D030US935-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919860
REPORT IS A COMBINATION OF REPORTS P899773 AND P896659
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-040D030US935-FLLFLL
Description: 2 foot, Square Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

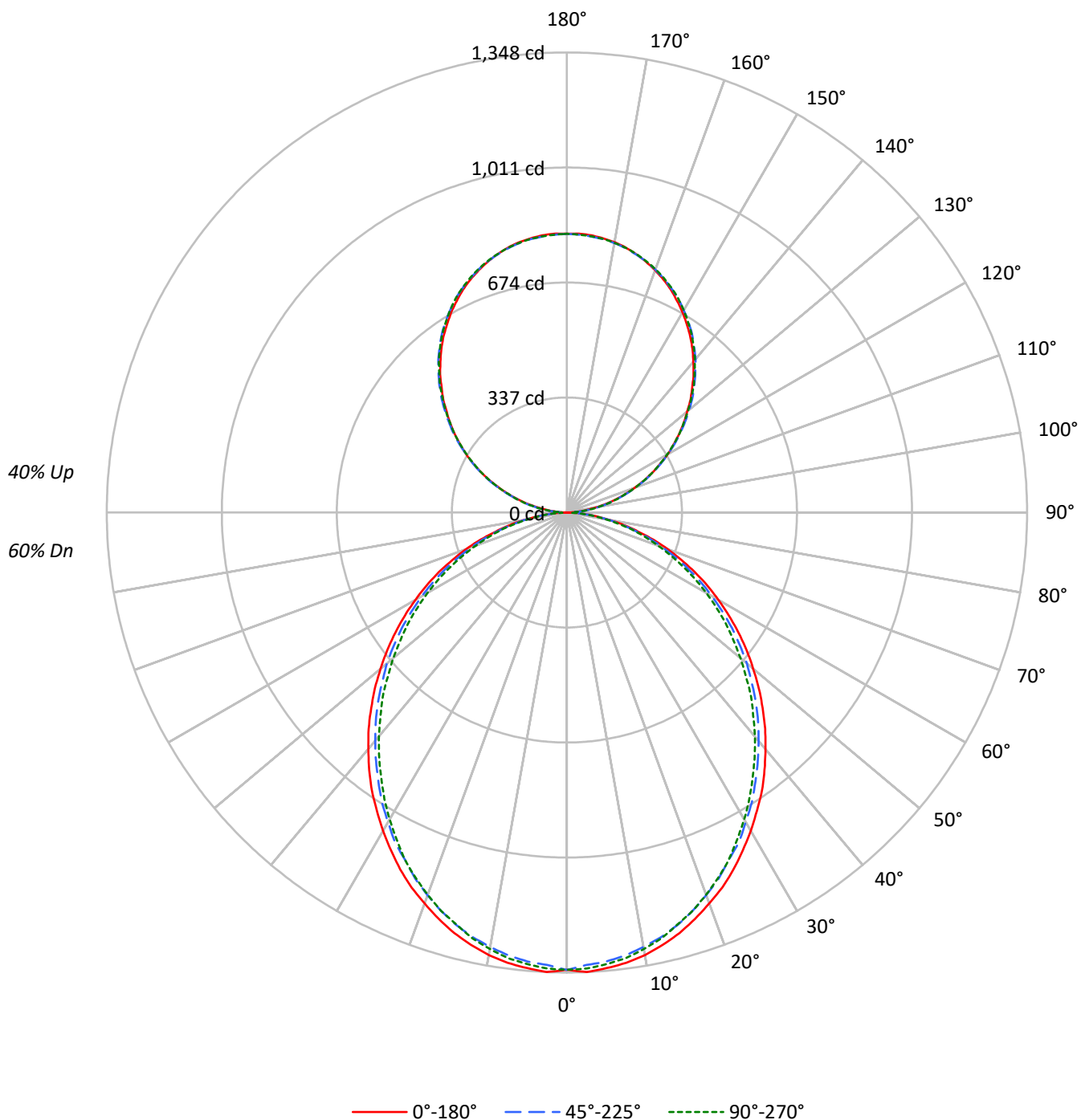
Lumens per Lamp: N/A
Luminaire Lumens: 5695.4 lumens
Efficiency: N/A
Efficacy: 100.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 56.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P919860

CATALOG NUMBER: DFN2DIP-SQ2F0-040D030US935-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P919860

CATALOG NUMBER: DFN2DIP-SQ2F0-040D030US935-FLLFLL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65
1	100	96	92	88	93	89	86	83	78	75	73	67	66	64	58	56	55
2	91	84	77	72	85	78	73	68	68	64	61	59	56	53	51	48	46
3	83	73	66	60	77	69	62	57	60	55	51	52	48	45	45	42	40
4	76	65	57	51	71	61	54	48	54	48	43	47	42	39	40	37	34
5	70	58	50	44	65	55	47	42	48	42	38	42	37	34	36	33	30
6	64	52	44	38	60	49	42	36	43	37	33	38	33	29	33	29	26
7	60	47	39	33	56	44	37	32	39	33	29	35	30	26	30	26	23
8	55	43	35	30	52	40	33	28	36	30	26	32	27	23	28	24	21
9	52	39	32	26	48	37	30	25	33	27	23	29	24	21	26	22	19
10	48	36	29	24	45	34	27	23	30	25	21	27	22	19	24	20	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2947	2947	2947
5°	2946	2899	2921
10°	2917	2854	2877
15°	2869	2800	2812
20°	2806	2729	2744
25°	2743	2644	2667
30°	2666	2565	2570
35°	2592	2473	2468
40°	2502	2380	2370
45°	2411	2286	2270
50°	2313	2187	2154
55°	2209	2073	2047
60°	2091	1939	1924
65°	1962	1798	1779
70°	1798	1627	1621
75°	1574	1423	1471
80°	1299	1161	1195
85°	878	733	750

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2411 cd/sqm

TEST NUMBER: P919860

CATALOG NUMBER: DFN2DIP-SQ2F0-040D030US935-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.1	2.2
10°-20°	354.9	6.2
20°-30°	521.5	9.2
30°-40°	605.7	10.6
40°-50°	605.0	10.6
50°-60°	527.5	9.3
60°-70°	389.9	6.8
70°-80°	220.6	3.9
80°-90°	60.5	1.1
90°-100°	50.6	0.9
100°-110°	160.6	2.8
110°-120°	274.9	4.8
120°-130°	361.5	6.3
130°-140°	405.7	7.1
140°-150°	397.9	7.0
150°-160°	333.8	5.9
160°-170°	221.3	3.9
170°-180°	77.4	1.4
0°-30°	1002.5	17.6
0°-40°	1608.3	28.2
0°-60°	2740.7	48.1
0°-90°	3411.8	59.9
90°-120°	486.0	8.5
90°-150°	1651.1	29.0
90°-180°	2284.0	40.1
0°-180°	5695.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1340	1340	1340	1340	1340	
5°	1340	1335	1321	1331	1329	127
15°	1276	1268	1251	1256	1250	359
25°	1154	1144	1122	1125	1122	531
35°	996	983	963	955	948	622
45°	810	802	782	768	763	626
55°	614	606	590	575	568	548
65°	414	406	393	381	375	409
75°	216	214	207	200	202	231
85°	53	52	50	46	45	59
90°	1	9	24	23	23	5
95°	36	43	44	44	43	40
105°	148	150	152	153	153	156
115°	276	280	278	278	276	273
125°	401	407	405	403	402	358
135°	519	526	528	527	525	401
145°	630	635	639	640	637	394
155°	720	722	724	728	726	332
165°	784	783	783	788	784	221
175°	816	814	812	817	813	77
180°	817	817	817	817	817	

TEST NUMBER: P919860

CATALOG NUMBER: DFN2DIP-SQ2F0-040D030US935-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1340.1	1340.1	1340.1	1340.1	1340.1
2.5°	1347.9	1341.4	1327.2	1340.1	1337.6
5°	1340.1	1335.0	1320.8	1331.0	1328.6
7.5°	1331.0	1323.4	1309.1	1319.6	1317.0
10°	1317.0	1307.9	1292.5	1302.8	1298.9
12.5°	1297.5	1289.9	1274.4	1280.9	1278.2
15°	1275.7	1268.0	1251.2	1256.4	1250.0
17.5°	1248.6	1241.0	1224.2	1230.5	1224.2
20°	1218.9	1211.3	1193.3	1197.0	1192.1
22.5°	1189.4	1177.8	1161.0	1161.0	1158.4
25°	1154.5	1144.3	1122.4	1124.9	1122.4
27.5°	1115.9	1106.8	1090.2	1086.3	1079.9
30°	1077.3	1066.9	1047.7	1043.8	1038.6
32.5°	1036.0	1028.4	1007.7	1000.0	994.7
35°	996.1	983.3	962.6	954.8	948.4
37.5°	951.0	939.3	918.7	909.7	903.3
40°	904.7	894.2	873.6	862.1	857.0
42.5°	859.5	849.1	828.6	815.6	808.0
45°	810.5	801.6	782.1	768.1	762.8
47.5°	762.8	753.8	733.2	719.0	711.4
50°	712.6	706.1	688.1	670.0	663.6
52.5°	663.6	654.6	637.9	623.7	614.7
55°	613.5	605.6	590.2	574.7	568.3
57.5°	563.1	556.7	539.8	524.4	519.3
60°	512.8	507.7	489.7	475.5	471.7
62.5°	463.9	454.9	442.0	429.1	424.0
65°	413.7	405.9	393.0	381.4	375.1
67.5°	362.1	355.6	344.1	335.1	329.9
70°	314.4	309.3	297.6	288.6	283.5
72.5°	265.5	260.3	253.9	244.9	241.0
75°	216.5	214.0	207.4	199.8	202.3
77.5°	172.6	167.5	164.9	161.0	157.2
80°	128.9	127.5	124.9	121.1	118.6
82.5°	87.6	87.6	86.4	81.2	81.2
85°	52.8	51.6	50.3	46.3	45.1
87.5°	23.2	20.7	18.1	14.2	12.8
90°	0.8	8.9	24.1	22.6	23.4
92.5°	15.2	20.7	21.4	22.1	22.1
95°	36.0	42.9	44.1	44.1	42.9
97.5°	59.8	66.2	69.0	69.0	69.0
100°	87.4	93.1	95.1	95.1	94.4
102.5°	116.5	120.7	123.4	124.2	123.4
105°	148.3	150.2	151.7	152.9	152.9
107.5°	179.8	182.7	182.7	183.2	179.8
110°	210.3	214.3	214.3	214.3	212.3



TEST NUMBER: P919860

CATALOG NUMBER: DFN2DIP-SQ2F0-040D030US935-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	243.3	247.5	246.8	244.8	243.3
115°	275.9	279.7	278.5	277.8	275.9
117.5°	308.1	313.5	310.0	308.1	306.1
120°	340.6	346.0	340.6	340.6	338.4
122.5°	370.1	377.0	373.6	371.6	370.1
125°	401.2	407.3	405.4	403.1	402.4
127.5°	431.4	439.1	436.4	433.4	431.4
130°	459.8	468.6	467.4	466.0	463.2
132.5°	491.5	498.4	498.9	495.5	493.5
135°	518.9	526.5	528.0	527.3	525.3
137.5°	549.4	555.6	556.8	556.4	553.4
140°	576.3	582.5	585.9	585.9	583.2
142.5°	603.9	610.0	612.0	612.8	610.0
145°	630.0	634.9	638.9	639.5	636.9
147.5°	653.4	659.5	662.5	663.7	661.0
150°	677.5	681.7	684.4	686.6	684.4
152.5°	699.0	703.1	706.5	709.3	706.5
155°	720.4	722.3	724.5	728.0	725.8
157.5°	738.8	740.3	741.6	746.5	743.0
160°	755.4	756.8	757.6	761.7	758.8
162.5°	770.6	770.6	771.4	776.0	772.6
165°	783.7	782.9	782.9	787.8	784.4
167.5°	795.5	793.2	793.2	798.1	794.7
170°	804.3	802.4	801.7	806.6	802.4
172.5°	810.5	808.6	807.8	812.7	808.6
175°	815.5	813.5	812.0	816.9	812.7
177.5°	818.1	816.1	814.7	818.9	814.7
180°	816.9	816.9	816.9	816.9	816.9

TEST NUMBER: P919860

CATALOG NUMBER: DFN2DIP-SQ2F0-040D030US935-FLLFLL

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	11.78	12.74	12.64	13.62	14.75	11.33	12.29	12.20	13.18	14.30
	3H	13.43	14.29	14.30	15.18	16.33	12.94	13.80	13.81	14.69	15.84
	4H	14.00	14.82	14.90	15.72	16.88	13.51	14.32	14.41	15.23	16.39
	6H	14.39	15.14	15.30	16.05	17.23	13.89	14.64	14.80	15.55	16.73
	8H	14.49	15.21	15.41	16.14	17.31	13.99	14.71	14.91	15.64	16.81
	12H	14.54	15.22	15.46	16.14	17.34	14.03	14.71	14.95	15.63	16.83
4H	2H	12.24	13.05	13.14	13.96	15.11	11.88	12.70	12.78	13.60	14.76
	3H	14.09	14.77	15.00	15.70	16.88	13.68	14.36	14.59	15.30	16.47
	4H	14.79	15.41	15.72	16.34	17.54	14.37	14.99	15.29	15.92	17.12
	6H	15.30	15.83	16.23	16.78	17.98	14.86	15.40	15.80	16.35	17.55
	8H	15.44	15.94	16.38	16.89	18.10	15.00	15.50	15.94	16.45	17.66
	12H	15.51	15.96	16.46	16.92	18.14	15.06	15.51	16.02	16.48	17.69
8H	4H	14.99	15.49	15.93	16.43	17.65	14.61	15.11	15.55	16.06	17.27
	6H	15.60	16.01	16.56	17.00	18.21	15.21	15.63	16.18	16.62	17.83
	8H	15.81	16.17	16.78	17.15	18.38	15.41	15.78	16.39	16.76	17.99
	12H	15.93	16.25	16.91	17.22	18.50	15.52	15.84	16.50	16.81	18.09
12H	4H	14.97	15.42	15.93	16.39	17.61	14.60	15.05	15.56	16.02	17.24
	6H	15.62	15.99	16.60	16.97	18.20	15.25	15.62	16.22	16.60	17.83
	8H	15.85	16.18	16.83	17.15	18.43	15.47	15.80	16.45	16.77	18.05