

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: P925436

Luminaire Tested: DFN2DIP-SQ3F0-040D040US950-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P925436
REPORT IS A COMBINATION OF REPORTS P899861 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-040D040US950-FLLFLL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

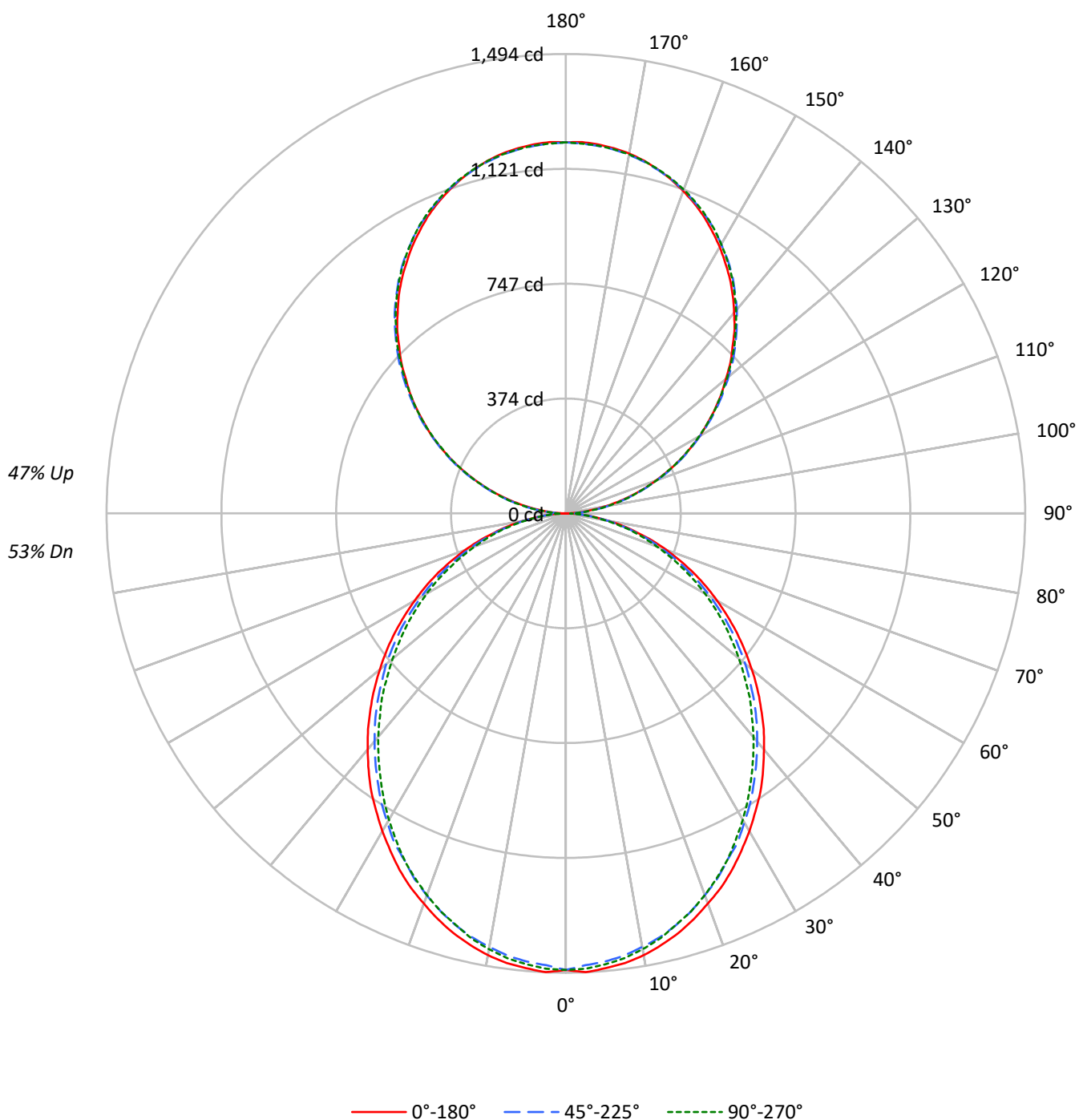
Lumens per Lamp: N/A
Luminaire Lumens: 7155.0 lumens
Efficiency: N/A
Efficacy: 114.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 62.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P925436

CATALOG NUMBER: DFN2DIP-SQ3F0-040D040US950-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P925436

CATALOG NUMBER: DFN2DIP-SQ3F0-040D040US950-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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59
1	98	94	90	87	91	87	84	81	74	72	70	63	61	59	52	51	50
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42
3	82	72	65	59	75	67	61	55	58	53	49	49	45	42	41	38	36
4	75	64	56	50	69	60	52	47	51	46	41	43	39	36	36	33	31
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	29	27
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24
7	59	46	38	33	54	43	36	31	37	32	28	32	28	24	27	24	21
8	54	42	34	29	50	39	32	27	34	29	24	29	25	22	25	21	19
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1701	1701	1701
5°	1703	1676	1688
10°	1688	1653	1665
15°	1662	1624	1629
20°	1628	1585	1592
25°	1593	1539	1549
30°	1550	1496	1494
35°	1509	1445	1437
40°	1459	1394	1382
45°	1409	1342	1326
50°	1355	1288	1261
55°	1297	1226	1202
60°	1232	1151	1134
65°	1162	1074	1053
70°	1071	981	966
75°	946	868	885
80°	795	724	732
85°	560	479	479

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1409 cd/sqm

TEST NUMBER: P925436

CATALOG NUMBER: DFN2DIP-SQ3F0-040D040US950-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.8	2.0
10°-20°	393.2	5.5
20°-30°	577.9	8.1
30°-40°	671.2	9.4
40°-50°	670.3	9.4
50°-60°	584.5	8.2
60°-70°	432.1	6.0
70°-80°	244.5	3.4
80°-90°	67.9	0.9
90°-100°	74.7	1.0
100°-110°	237.3	3.3
110°-120°	406.1	5.7
120°-130°	534.0	7.5
130°-140°	599.4	8.4
140°-150°	587.8	8.2
150°-160°	493.1	6.9
160°-170°	327.0	4.6
170°-180°	114.3	1.6
0°-30°	1110.8	15.5
0°-40°	1782.0	24.9
0°-60°	3036.8	42.4
0°-90°	3781.3	52.8
90°-120°	718.0	10.0
90°-150°	2439.3	34.1
90°-180°	3374.0	47.2
0°-180°	7155.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1485	1485	1485	1485	1485	
5°	1485	1479	1463	1475	1472	141
15°	1413	1405	1386	1392	1385	398
25°	1279	1268	1244	1246	1244	589
35°	1104	1090	1067	1058	1051	689
45°	898	888	867	851	845	693
55°	680	671	654	637	630	608
65°	458	450	436	423	416	453
75°	240	237	230	221	224	256
85°	58	57	56	51	50	65
90°	1	13	36	34	34	7
95°	53	63	65	65	63	59
105°	219	222	224	226	226	231
115°	408	413	412	410	408	403
125°	593	602	599	596	594	530
135°	767	778	780	779	776	593
145°	931	938	944	945	941	582
155°	1064	1067	1070	1076	1072	490
165°	1158	1157	1157	1164	1159	327
175°	1205	1202	1200	1207	1201	114
180°	1207	1207	1207	1207	1207	

TEST NUMBER: P925436

CATALOG NUMBER: DFN2DIP-SQ3F0-040D040US950-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1484.8	1484.8	1484.8	1484.8	1484.8
2.5°	1493.5	1486.3	1470.6	1484.8	1482.1
5°	1484.8	1479.2	1463.4	1474.8	1472.1
7.5°	1474.8	1466.3	1450.6	1462.1	1459.2
10°	1459.2	1449.2	1432.1	1443.5	1439.2
12.5°	1437.7	1429.2	1412.1	1419.3	1416.3
15°	1413.4	1405.0	1386.4	1392.1	1385.0
17.5°	1383.5	1375.0	1356.4	1363.5	1356.4
20°	1350.6	1342.1	1322.1	1326.3	1320.8
22.5°	1317.9	1305.0	1286.4	1286.4	1283.5
25°	1279.2	1267.9	1243.6	1246.4	1243.6
27.5°	1236.4	1226.4	1208.0	1203.7	1196.6
30°	1193.6	1182.2	1160.8	1156.5	1150.8
32.5°	1147.9	1139.5	1116.6	1108.0	1102.2
35°	1103.7	1089.5	1066.6	1058.0	1050.8
37.5°	1053.7	1040.8	1017.9	1008.0	1000.8
40°	1002.4	990.8	967.9	955.2	949.5
42.5°	952.4	940.8	918.1	903.7	895.2
45°	898.1	888.2	866.6	851.1	845.2
47.5°	845.2	835.2	812.4	796.7	788.2
50°	789.5	782.4	762.4	742.4	735.2
52.5°	735.2	725.3	706.8	691.1	681.1
55°	679.7	671.0	654.0	636.8	629.7
57.5°	623.9	616.9	598.2	581.1	575.4
60°	568.2	562.6	542.6	526.9	522.6
62.5°	514.0	504.0	489.8	475.5	469.7
65°	458.4	449.7	435.5	422.6	415.6
67.5°	401.3	394.0	381.3	371.3	365.6
70°	348.4	342.7	329.8	319.8	314.2
72.5°	294.2	288.4	281.3	271.3	267.0
75°	239.8	237.1	229.8	221.3	224.2
77.5°	191.3	185.6	182.7	178.4	174.2
80°	142.8	141.3	138.4	134.2	131.4
82.5°	97.1	97.1	95.8	90.0	90.0
85°	58.5	57.1	55.7	51.3	50.0
87.5°	25.8	22.9	20.0	15.7	14.2
90°	1.0	13.1	35.7	33.5	34.5
92.5°	22.5	30.5	31.7	32.7	32.7
95°	53.1	63.3	65.2	65.2	63.3
97.5°	88.4	97.9	101.9	101.9	101.9
100°	129.2	137.6	140.4	140.4	139.4
102.5°	172.1	178.3	182.3	183.4	182.3
105°	219.0	221.9	224.1	225.9	225.9
107.5°	265.6	270.0	270.0	270.6	265.6
110°	310.7	316.5	316.5	316.5	313.7

TEST NUMBER: P925436

CATALOG NUMBER: DFN2DIP-SQ3F0-040D040US950-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	359.5	365.7	364.5	361.7	359.5
115°	407.5	413.4	411.5	410.4	407.5
117.5°	455.2	463.2	458.1	455.2	452.3
120°	503.2	511.2	503.2	503.2	499.9
122.5°	546.8	557.0	552.0	549.0	546.8
125°	592.7	601.8	598.9	595.6	594.5
127.5°	637.5	648.7	644.7	640.3	637.5
130°	679.2	692.4	690.6	688.4	684.4
132.5°	726.2	736.4	737.2	732.0	729.1
135°	766.6	777.9	780.1	778.9	776.1
137.5°	811.8	820.8	822.6	821.9	817.6
140°	851.3	860.5	865.6	865.6	861.6
142.5°	892.2	901.2	904.1	905.3	901.2
145°	930.7	938.0	943.8	944.9	940.9
147.5°	965.3	974.3	978.7	980.5	976.5
150°	1000.9	1007.1	1011.1	1014.4	1011.1
152.5°	1032.6	1038.7	1043.9	1047.9	1043.9
155°	1064.2	1067.1	1070.4	1075.5	1072.2
157.5°	1091.6	1093.7	1095.5	1102.8	1097.7
160°	1115.9	1118.1	1119.1	1125.3	1121.0
162.5°	1138.4	1138.4	1139.6	1146.4	1141.4
165°	1157.8	1156.6	1156.6	1163.9	1158.8
167.5°	1175.2	1171.9	1171.9	1179.2	1174.1
170°	1188.3	1185.3	1184.3	1191.5	1185.3
172.5°	1197.4	1194.5	1193.4	1200.7	1194.5
175°	1204.7	1201.8	1199.6	1206.8	1200.7
177.5°	1208.7	1205.8	1203.6	1209.8	1203.6
180°	1206.8	1206.8	1206.8	1206.8	1206.8

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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	9.34	10.23	10.27	11.18	12.41	8.90	9.79	9.83	10.74	11.97
	3H	11.00	11.80	11.94	12.76	14.01	10.51	11.31	11.45	12.27	13.52
	4H	11.59	12.34	12.54	13.30	14.57	11.09	11.85	12.05	12.81	14.07
	6H	11.98	12.68	12.95	13.65	14.92	11.48	12.18	12.45	13.15	14.42
	8H	12.09	12.75	13.06	13.73	15.01	11.59	12.25	12.56	13.23	14.51
	12H	12.14	12.76	13.12	13.74	15.04	11.63	12.26	12.61	13.24	14.53
4H	2H	9.80	10.56	10.77	11.52	12.78	9.45	10.20	10.41	11.16	12.43
	3H	11.67	12.29	12.64	13.29	14.56	11.26	11.89	12.23	12.88	14.16
	4H	12.38	12.95	13.36	13.94	15.24	11.95	12.53	12.94	13.51	14.82
	6H	12.89	13.39	13.88	14.40	15.69	12.46	12.95	13.45	13.96	15.26
	8H	13.04	13.50	14.03	14.50	15.82	12.60	13.06	13.60	14.07	15.38
	12H	13.11	13.53	14.12	14.55	15.87	12.66	13.08	13.68	14.10	15.42
8H	4H	12.57	13.03	13.57	14.04	15.35	12.19	12.66	13.19	13.66	14.97
	6H	13.20	13.58	14.22	14.63	15.94	12.81	13.20	13.84	14.24	15.55
	8H	13.42	13.75	14.45	14.79	16.11	13.02	13.36	14.05	14.39	15.72
	12H	13.55	13.84	14.58	14.87	16.24	13.13	13.43	14.17	14.46	15.83
12H	4H	12.56	12.98	13.57	14.00	15.31	12.19	12.61	13.20	13.63	14.95
	6H	13.23	13.56	14.26	14.60	15.93	12.85	13.19	13.88	14.22	15.55
	8H	13.47	13.76	14.50	14.79	16.16	13.09	13.38	14.12	14.41	15.78