

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: P904331

Luminaire Tested: DFN2DIP-TR2F0-050D040US830-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P904331
REPORT IS A COMBINATION OF REPORTS P901768 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-050D040US830-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

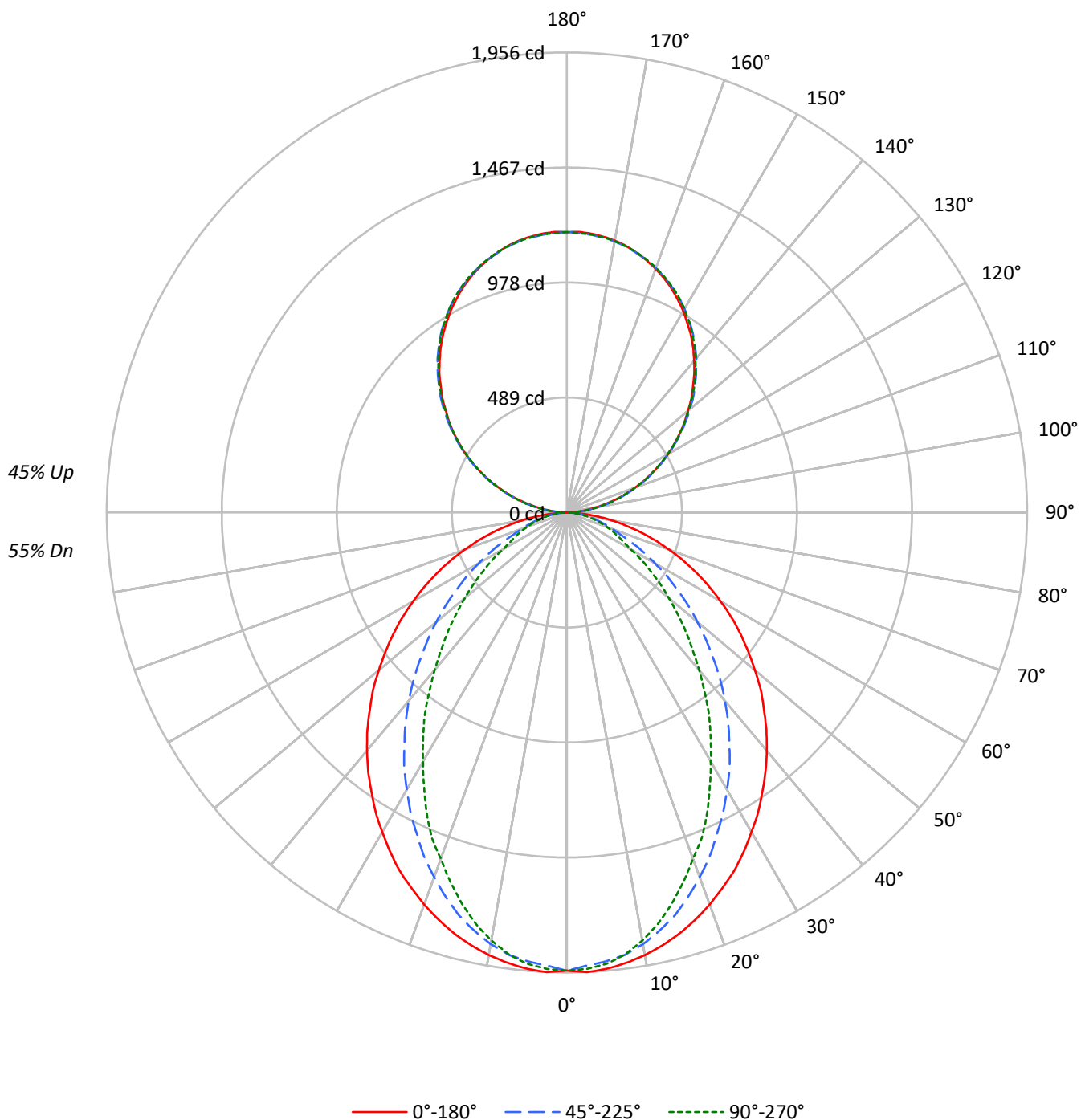
Lumens per Lamp: N/A
Luminaire Lumens: 7342.4 lumens
Efficiency: N/A
Efficacy: 95.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 76.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P904331

CATALOG NUMBER: DFN2DIP-TR2F0-050D040US830-RLLONL

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
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	86	86	86	73	73	73	60	60	60
1	99	95	91	88	92	89	85	82	76	74	72	65	63	62	54	53	52
2	91	84	78	73	84	78	73	69	67	63	60	57	55	52	48	46	45
3	83	74	67	61	77	69	63	58	60	55	51	51	48	45	43	41	39
4	76	66	58	52	71	62	55	50	54	48	44	46	42	39	39	36	34
5	70	59	51	45	65	55	48	43	48	43	38	42	37	34	35	32	30
6	65	53	45	40	60	50	43	38	44	38	34	38	33	30	32	29	26
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	26	24
8	56	44	36	31	52	41	34	30	36	31	27	32	27	24	27	24	21
9	52	40	33	28	49	38	31	27	34	28	24	29	25	22	25	22	19
10	49	37	30	25	46	35	28	24	31	26	22	27	23	20	24	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4344	4344	4344
5°	4345	4266	4295
10°	4295	4172	4148
15°	4230	4025	3925
20°	4145	3826	3654
25°	4058	3605	3393
30°	3944	3379	3064
35°	3832	3137	2775
40°	3717	2887	2445
45°	3585	2612	2147
50°	3447	2334	1855
55°	3303	2039	1576
60°	3135	1733	1290
65°	2942	1422	1154
70°	2708	1132	1033
75°	2413	979	925
80°	1990	795	780
85°	1307	493	550

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3585 cd/sqm

TEST NUMBER: P904331

CATALOG NUMBER: DFN2DIP-TR2F0-050D040US830-RLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.5	2.5
10°-20°	501.1	6.8
20°-30°	703.6	9.6
30°-40°	766.9	10.4
40°-50°	704.9	9.6
50°-60°	553.6	7.5
60°-70°	360.3	4.9
70°-80°	185.5	2.5
80°-90°	50.7	0.7
90°-100°	73.8	1.0
100°-110°	234.4	3.2
110°-120°	401.2	5.5
120°-130°	527.6	7.2
130°-140°	592.2	8.1
140°-150°	580.8	7.9
150°-160°	487.2	6.6
160°-170°	323.1	4.4
170°-180°	112.9	1.5
0°-30°	1387.2	18.9
0°-40°	2154.2	29.3
0°-60°	3412.7	46.5
0°-90°	4009.2	54.6
90°-120°	709.4	9.7
90°-150°	2410.0	32.8
90°-180°	3333.0	45.4
0°-180°	7342.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1948	1948	1948	1948	1948	
5°	1948	1939	1916	1932	1927	185
15°	1853	1833	1773	1740	1722	522
25°	1682	1625	1509	1437	1410	773
35°	1449	1359	1204	1093	1054	907
45°	1185	1066	881	756	714	915
55°	901	763	573	467	434	805
65°	608	465	307	247	242	603
75°	324	201	141	129	127	343
85°	76	39	34	34	34	87
90°	1	13	35	33	34	7
95°	52	63	64	64	63	58
105°	216	219	221	223	223	228
115°	403	408	406	406	403	398
125°	586	595	592	588	587	523
135°	757	768	771	770	767	585
145°	920	927	932	934	930	575
155°	1051	1054	1058	1063	1059	484
165°	1144	1143	1143	1150	1145	323
175°	1190	1187	1185	1192	1186	113
180°	1192	1192	1192	1192	1192	

TEST NUMBER: P904331

CATALOG NUMBER: DFN2DIP-TR2F0-050D040US830-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1947.8	1947.8	1947.8	1947.8	1947.8
2.5°	1956.5	1947.8	1928.3	1946.1	1942.5
5°	1947.8	1939.0	1916.0	1931.8	1926.7
7.5°	1931.8	1921.4	1896.7	1903.7	1894.8
10°	1910.7	1898.4	1863.2	1857.8	1847.3
12.5°	1884.3	1868.5	1820.8	1810.3	1790.8
15°	1852.6	1833.2	1773.3	1739.8	1722.2
17.5°	1815.5	1787.3	1713.3	1674.5	1646.2
20°	1773.3	1738.0	1649.8	1605.9	1567.0
22.5°	1727.5	1686.9	1584.6	1524.8	1498.4
25°	1681.6	1625.1	1508.8	1436.6	1410.0
27.5°	1627.0	1567.0	1438.3	1355.5	1314.9
30°	1568.9	1501.8	1360.7	1270.9	1223.2
32.5°	1512.4	1431.3	1286.9	1181.0	1136.9
35°	1449.0	1359.1	1204.0	1092.9	1054.0
37.5°	1387.2	1290.2	1126.4	1004.7	960.7
40°	1322.0	1216.4	1045.2	920.1	874.3
42.5°	1255.1	1142.3	964.2	833.7	789.8
45°	1184.6	1066.4	881.4	756.1	713.8
47.5°	1117.6	992.5	802.1	676.8	638.1
50°	1043.6	918.4	724.5	602.8	565.9
52.5°	971.2	839.0	650.4	534.1	500.7
55°	900.7	763.2	572.8	467.1	433.7
57.5°	828.5	687.5	504.2	405.5	377.2
60°	754.4	613.4	431.8	342.0	313.8
62.5°	682.2	541.2	370.1	285.6	271.5
65°	608.1	465.3	306.7	246.9	241.5
67.5°	537.6	394.8	246.9	216.8	211.5
70°	463.6	326.1	204.4	186.8	179.7
72.5°	393.1	262.6	171.0	156.9	153.4
75°	324.3	200.9	141.0	128.7	127.0
77.5°	255.6	142.7	111.1	104.0	100.4
80°	192.1	102.3	84.5	77.6	77.6
82.5°	133.9	68.8	58.2	54.6	54.6
85°	75.8	38.7	33.5	33.5	33.5
87.5°	28.3	14.0	14.0	12.3	12.3
90°	1.0	12.9	35.3	33.1	34.1
92.5°	22.2	30.2	31.3	32.3	32.3
95°	52.5	62.6	64.4	64.4	62.6
97.5°	87.4	96.7	100.7	100.7	100.7
100°	127.6	135.9	138.7	138.7	137.7
102.5°	170.0	176.2	180.1	181.2	180.1
105°	216.4	219.2	221.4	223.2	223.2
107.5°	262.4	266.7	266.7	267.4	262.4
110°	307.0	312.7	312.7	312.7	309.9

TEST NUMBER: P904331

CATALOG NUMBER: DFN2DIP-TR2F0-050D040US830-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	355.1	361.3	360.1	357.3	355.1
115°	402.6	408.4	406.5	405.5	402.6
117.5°	449.7	457.6	452.6	449.7	446.9
120°	497.2	505.0	497.2	497.2	493.9
122.5°	540.3	550.4	545.4	542.4	540.3
125°	585.6	594.6	591.7	588.4	587.4
127.5°	629.8	640.9	637.0	632.6	629.8
130°	671.1	684.1	682.3	680.1	676.2
132.5°	717.5	727.5	728.3	723.2	720.4
135°	757.4	768.5	770.7	769.6	766.8
137.5°	802.0	811.0	812.8	812.0	807.8
140°	841.1	850.2	855.2	855.2	851.2
142.5°	881.5	890.4	893.2	894.4	890.4
145°	919.5	926.7	932.5	933.6	929.6
147.5°	953.7	962.6	967.0	968.7	964.8
150°	988.9	995.0	999.0	1002.2	999.0
152.5°	1020.2	1026.2	1031.3	1035.3	1031.3
155°	1051.4	1054.3	1057.5	1062.6	1059.3
157.5°	1078.5	1080.5	1082.3	1089.6	1084.5
160°	1102.5	1104.7	1105.7	1111.8	1107.5
162.5°	1124.7	1124.7	1125.9	1132.7	1127.7
165°	1143.9	1142.7	1142.7	1149.9	1144.9
167.5°	1161.1	1157.8	1157.8	1165.1	1160.0
170°	1174.0	1171.1	1170.1	1177.2	1171.1
172.5°	1183.0	1180.2	1179.0	1186.3	1180.2
175°	1190.2	1187.3	1185.2	1192.3	1186.3
177.5°	1194.2	1191.3	1189.1	1195.2	1189.1
180°	1192.3	1192.3	1192.3	1192.3	1192.3

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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	12.54	13.41	13.46	14.35	15.55	8.52	9.39	9.45	10.33	11.54
	3H	14.20	14.97	15.13	15.92	17.15	9.70	10.48	10.63	11.42	12.65
	4H	14.79	15.53	15.74	16.48	17.72	10.14	10.87	11.09	11.83	13.07
	6H	15.20	15.87	16.16	16.83	18.08	10.45	11.13	11.41	12.08	13.33
	8H	15.31	15.96	16.28	16.93	18.18	10.53	11.18	11.50	12.15	13.40
	12H	15.37	15.98	16.34	16.95	18.22	10.57	11.18	11.54	12.15	13.42
4H	2H	12.56	13.29	13.52	14.25	15.49	9.11	9.84	10.07	10.80	12.04
	3H	14.37	14.98	15.33	15.96	17.21	10.44	11.06	11.41	12.04	13.29
	4H	15.04	15.60	16.02	16.57	17.85	10.98	11.54	11.96	12.51	13.79
	6H	15.54	16.01	16.52	17.01	18.29	11.39	11.86	12.37	12.86	14.14
	8H	15.70	16.15	16.69	17.14	18.43	11.51	11.95	12.49	12.94	14.24
	12H	15.78	16.19	16.79	17.19	18.49	11.56	11.97	12.57	12.97	14.27
8H	4H	15.01	15.45	16.00	16.45	17.74	11.25	11.70	12.24	12.69	13.98
	6H	15.55	15.92	16.56	16.95	18.24	11.75	12.12	12.76	13.15	14.44
	8H	15.75	16.08	16.77	17.10	18.41	11.93	12.25	12.95	13.27	14.58
	12H	15.87	16.16	16.90	17.18	18.53	12.03	12.32	13.06	13.34	14.69
12H	4H	14.96	15.36	15.97	16.37	17.67	11.25	11.66	12.26	12.66	13.96
	6H	15.52	15.85	16.54	16.87	18.18	11.79	12.12	12.81	13.14	14.45
	8H	15.73	16.02	16.75	17.03	18.38	11.99	12.27	13.01	13.29	14.64