

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: P917975

Luminaire Tested: DFN2DIP-TR2F0-050D050US930-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P917975
REPORT IS A COMBINATION OF REPORTS P901778 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-050D050US930-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

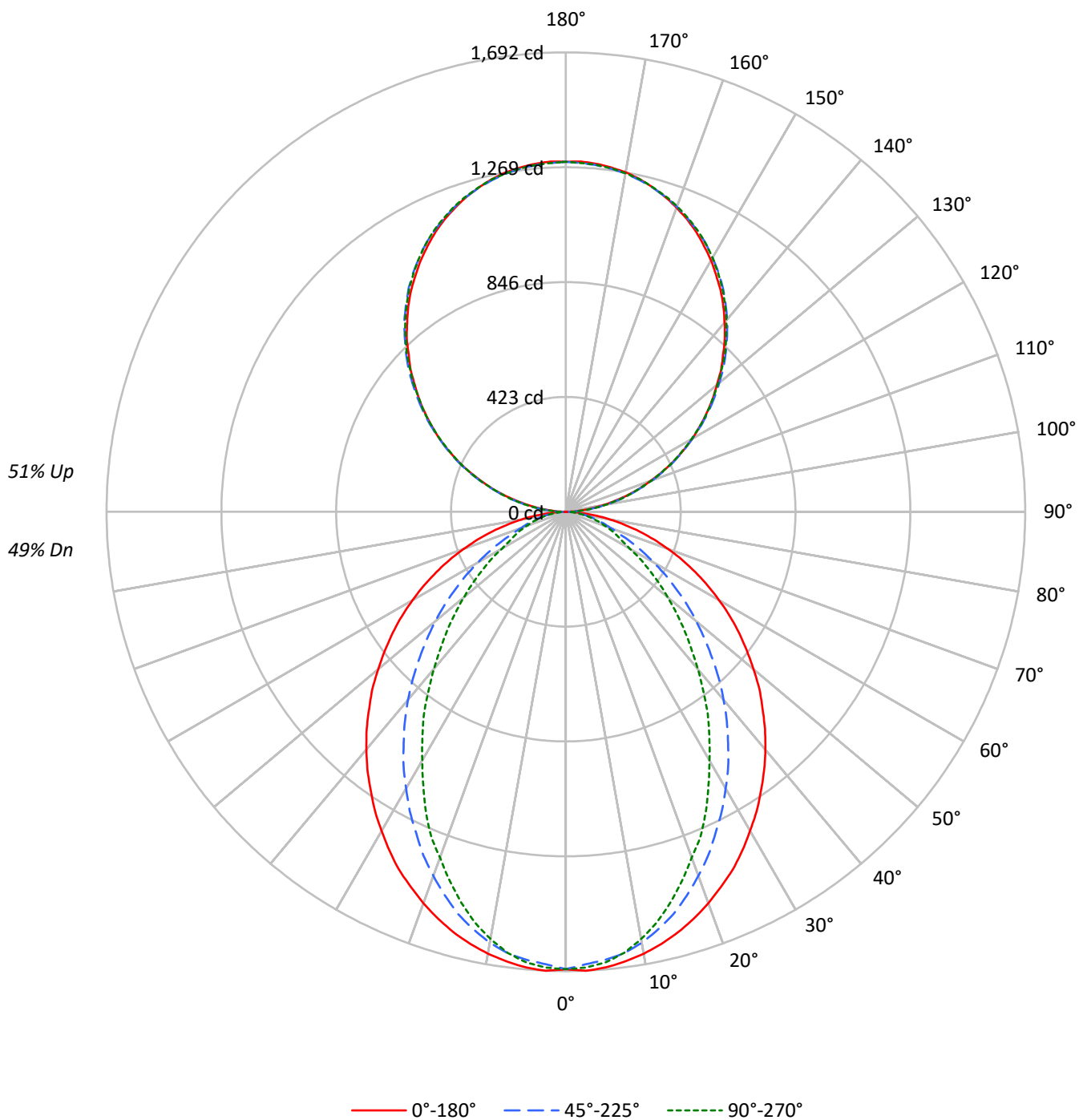
Lumens per Lamp: N/A
Luminaire Lumens: 7072.7 lumens
Efficiency: N/A
Efficacy: 82.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 86
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

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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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	107	107	107	107	99	99	99	99	83	83	83		68	68	68		55
1	98	94	90	87	90	87	84	81	73	71	69		61	59	58		50
2	90	83	77	72	82	76	71	67	65	61	58		54	51	49		44
3	82	73	66	60	75	68	61	57	58	53	49		48	45	42		40
4	75	65	57	51	69	60	54	48	51	46	42		43	40	36		36
5	69	58	50	44	64	54	47	42	46	41	37		39	35	32		32
6	64	52	44	39	59	49	42	37	42	36	32		35	31	28		30
7	59	47	40	34	55	44	37	32	38	33	29		32	28	25		27
8	55	43	36	30	51	40	33	29	35	29	26		30	26	23		25
9	51	39	32	27	47	37	30	26	32	27	23		27	23	20		23
10	48	36	29	24	44	34	28	23	30	24	21		25	21	19		22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3758	3758	3758
5°	3758	3690	3716
10°	3716	3609	3588
15°	3659	3482	3395
20°	3586	3310	3161
25°	3510	3118	2935
30°	3412	2922	2650
35°	3315	2713	2400
40°	3215	2497	2115
45°	3101	2259	1857
50°	2982	2019	1605
55°	2857	1764	1363
60°	2712	1499	1116
65°	2545	1230	998
70°	2342	979	894
75°	2087	847	800
80°	1721	687	675
85°	1129	426	474

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3101 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.9	2.2
10°-20°	433.5	6.1
20°-30°	608.6	8.6
30°-40°	663.4	9.4
40°-50°	609.7	8.6
50°-60°	478.8	6.8
60°-70°	311.7	4.4
70°-80°	160.4	2.3
80°-90°	44.6	0.6
90°-100°	79.8	1.1
100°-110°	253.5	3.6
110°-120°	433.8	6.1
120°-130°	570.5	8.1
130°-140°	640.4	9.1
140°-150°	627.9	8.9
150°-160°	526.8	7.4
160°-170°	349.3	4.9
170°-180°	122.1	1.7
0°-30°	1200.0	17.0
0°-40°	1863.4	26.3
0°-60°	2951.9	41.7
0°-90°	3468.7	49.0
90°-120°	767.0	10.8
90°-150°	2605.8	36.8
90°-180°	3604.0	51.0
0°-180°	7072.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1685	1685	1685	1685	1685	
5°	1685	1677	1657	1671	1667	160
15°	1602	1586	1534	1505	1490	452
25°	1455	1406	1305	1243	1220	669
35°	1253	1176	1042	945	912	784
45°	1025	922	762	654	617	791
55°	779	660	496	404	375	696
65°	526	402	265	214	209	521
75°	280	174	122	111	110	297
85°	66	34	29	29	29	75
90°	1	14	38	36	37	7
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°	1684.8	1684.8	1684.8	1684.8	1684.8
2.5°	1692.4	1684.8	1668.0	1683.3	1680.2
5°	1684.8	1677.2	1657.3	1671.0	1666.6
7.5°	1671.0	1662.0	1640.6	1646.7	1639.0
10°	1652.8	1642.1	1611.7	1607.0	1597.9
12.5°	1629.9	1616.2	1575.0	1565.9	1549.1
15°	1602.5	1585.7	1533.9	1505.0	1489.7
17.5°	1570.4	1546.1	1482.0	1448.5	1424.0
20°	1533.9	1503.3	1427.1	1389.1	1355.4
22.5°	1494.3	1459.1	1370.7	1318.9	1296.1
25°	1454.6	1405.7	1305.1	1242.7	1219.7
27.5°	1407.4	1355.4	1244.1	1172.5	1137.4
30°	1357.1	1299.0	1177.0	1099.3	1058.1
32.5°	1308.2	1238.0	1113.1	1021.6	983.4
35°	1253.4	1175.6	1041.5	945.3	911.7
37.5°	1200.0	1116.1	974.4	869.0	831.0
40°	1143.5	1052.1	904.1	795.9	756.3
42.5°	1085.7	988.1	834.1	721.1	683.1
45°	1024.7	922.4	762.4	654.0	617.4
47.5°	966.7	858.5	693.8	585.5	552.0
50°	902.7	794.4	626.7	521.4	489.5
52.5°	840.1	725.7	562.6	462.0	433.1
55°	779.1	660.1	495.5	404.1	375.1
57.5°	716.6	594.7	436.1	350.7	326.3
60°	652.6	530.6	373.5	295.9	271.4
62.5°	590.1	468.1	320.2	247.0	234.9
65°	526.0	402.5	265.3	213.5	208.9
67.5°	465.0	341.5	213.5	187.5	183.0
70°	401.0	282.1	176.8	161.6	155.5
72.5°	340.1	227.1	147.9	135.7	132.6
75°	280.5	173.7	122.0	111.3	109.8
77.5°	221.1	123.4	96.1	89.9	86.8
80°	166.2	88.5	73.1	67.1	67.1
82.5°	115.9	59.5	50.3	47.2	47.2
85°	65.5	33.5	28.9	28.9	28.9
87.5°	24.5	12.1	12.1	10.7	10.7
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	11.53	12.35	12.50	13.33	14.62	7.51	8.33	8.48	9.31	10.60
	3H	13.18	13.91	14.16	14.91	16.21	8.68	9.42	9.66	10.41	11.72
	4H	13.77	14.47	14.77	15.46	16.78	9.12	9.81	10.12	10.81	12.13
	6H	14.17	14.81	15.18	15.81	17.14	9.43	10.07	10.43	11.06	12.39
	8H	14.29	14.90	15.30	15.91	17.24	9.51	10.12	10.52	11.13	12.46
	12H	14.34	14.92	15.36	15.93	17.28	9.54	10.12	10.56	11.13	12.48
4H	2H	11.54	12.24	12.54	13.23	14.55	8.09	8.78	9.09	9.78	11.10
	3H	13.34	13.92	14.35	14.94	16.27	9.42	10.00	10.43	11.02	12.35
	4H	14.01	14.54	15.03	15.56	16.91	9.95	10.48	10.97	11.50	12.85
	6H	14.51	14.96	15.54	16.00	17.35	10.36	10.81	11.39	11.85	13.20
	8H	14.67	15.09	15.70	16.12	17.49	10.47	10.90	11.51	11.93	13.30
	12H	14.75	15.13	15.80	16.18	17.55	10.53	10.91	11.58	11.96	13.33
8H	4H	13.98	14.40	15.01	15.43	16.80	10.22	10.64	11.25	11.68	13.04
	6H	14.52	14.87	15.57	15.94	17.31	10.72	11.07	11.77	12.14	13.50
	8H	14.72	15.03	15.78	16.09	17.47	10.89	11.20	11.96	12.26	13.64
	12H	14.84	15.11	15.91	16.17	17.59	11.00	11.27	12.06	12.32	13.75
12H	4H	13.93	14.31	14.98	15.36	16.73	10.22	10.60	11.27	11.65	13.02
	6H	14.49	14.80	15.55	15.86	17.24	10.76	11.07	11.82	12.13	13.51
	8H	14.70	14.97	15.76	16.02	17.45	10.95	11.22	12.02	12.28	13.70