

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: P917963

Luminaire Tested: DFN2DIP-TR2F0-050D020US930-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P917963
REPORT IS A COMBINATION OF REPORTS P901748 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-050D020US930-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

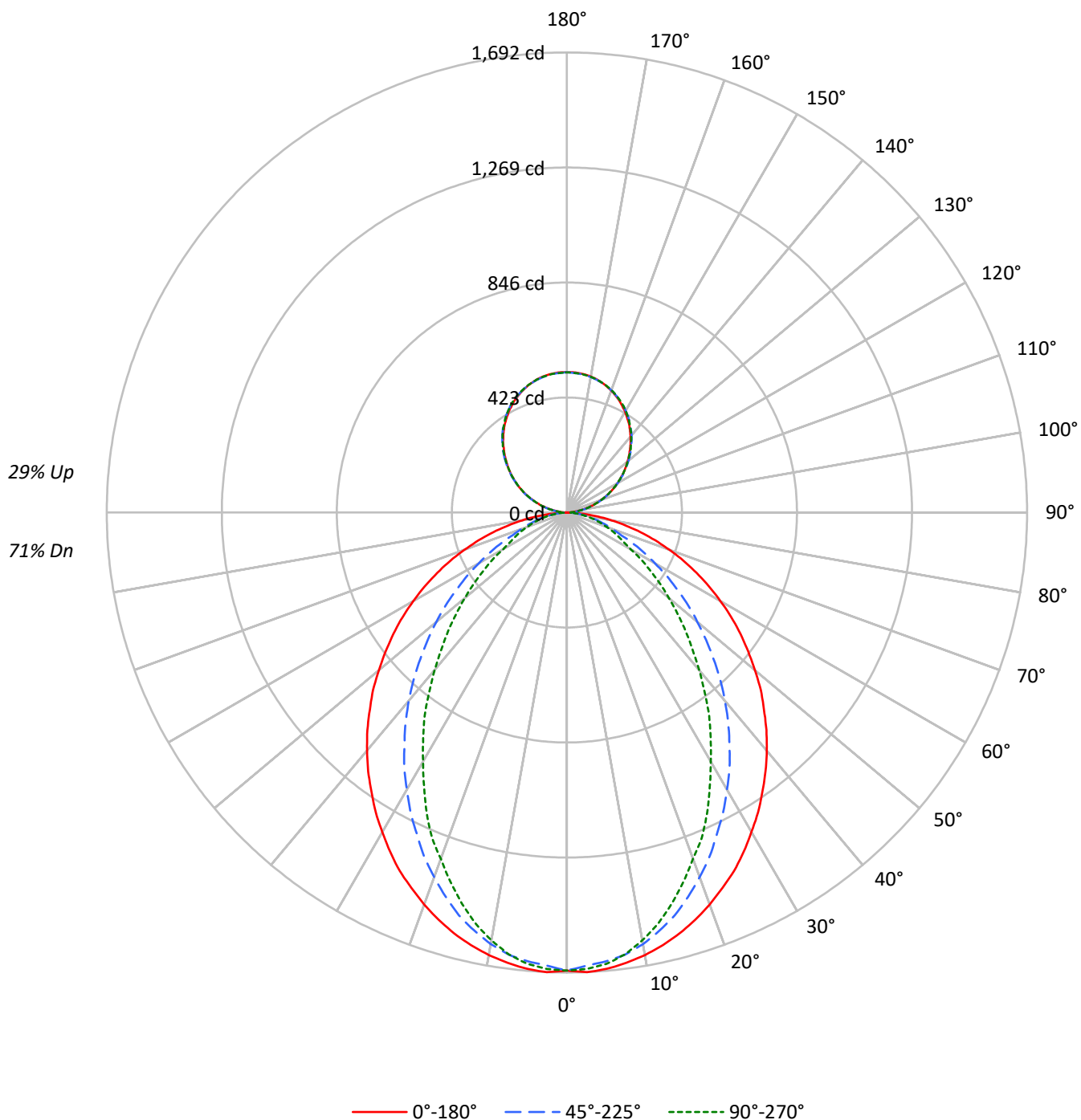
Lumens per Lamp: N/A
Luminaire Lumens: 4908.1 lumens
Efficiency: N/A
Efficacy: 78.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 62.8
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: P917963

CATALOG NUMBER: DFN2DIP-TR2F0-050D020US930-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P917963

CATALOG NUMBER: DFN2DIP-TR2F0-050D020US930-RLLONL

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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75
1	103	99	95	92	97	94	90	88	84	82	79	76	74	72	67	66	65
2	94	87	81	76	89	83	78	73	75	71	67	67	64	61	60	58	56
3	87	77	70	64	82	74	67	62	67	61	57	60	56	53	54	51	48
4	80	69	61	55	75	66	59	53	60	54	49	54	49	46	49	45	42
5	74	62	54	48	69	59	52	46	54	48	43	49	44	40	44	40	37
6	68	56	48	42	64	54	46	41	49	43	38	44	39	36	40	36	33
7	63	51	43	37	60	49	41	36	45	38	34	41	36	32	37	33	30
8	59	47	39	33	56	45	37	32	41	35	31	37	32	29	34	30	27
9	55	43	35	30	52	41	34	29	38	32	28	35	30	26	32	28	24
10	52	39	32	27	49	38	31	27	35	29	25	32	27	24	30	25	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

TEST NUMBER: P917963

CATALOG NUMBER: DFN2DIP-TR2F0-050D020US930-RLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.9	3.2
10°-20°	433.5	8.8
20°-30°	608.6	12.4
30°-40°	663.4	13.5
40°-50°	609.7	12.4
50°-60°	478.8	9.8
60°-70°	311.7	6.4
70°-80°	160.4	3.3
80°-90°	42.4	0.9
90°-100°	31.9	0.6
100°-110°	101.4	2.1
110°-120°	173.5	3.5
120°-130°	228.2	4.6
130°-140°	256.1	5.2
140°-150°	251.2	5.1
150°-160°	210.7	4.3
160°-170°	139.7	2.8
170°-180°	48.8	1.0
0°-30°	1200.0	24.4
0°-40°	1863.4	38.0
0°-60°	2951.9	60.1
0°-90°	3466.5	70.6
90°-120°	306.8	6.3
90°-150°	1042.3	21.2
90°-180°	1442.0	29.4
0°-180°	4908.1	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°	0	6	15	14	15	5
95°	23	27	28	28	27	25
105°	94	95	96	96	96	99
115°	174	177	176	175	174	172
125°	253	257	256	254	254	226
135°	328	332	333	333	332	253
145°	398	401	403	404	402	248
155°	455	456	457	460	458	209
165°	495	494	494	497	495	140
175°	515	514	513	516	513	49
180°	516	516	516	516	516	

TEST NUMBER: P917963

CATALOG NUMBER: DFN2DIP-TR2F0-050D020US930-RLLONL

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°	0.5	5.6	15.2	14.3	14.8
92.5°	9.6	13.0	13.5	14.0	14.0
95°	22.7	27.1	27.8	27.8	27.1
97.5°	37.7	41.8	43.5	43.5	43.5
100°	55.2	58.8	60.0	60.0	59.5
102.5°	73.5	76.1	77.9	78.4	77.9
105°	93.6	94.8	95.8	96.5	96.5
107.5°	113.5	115.4	115.4	115.7	113.5
110°	132.8	135.3	135.3	135.3	134.0



TEST NUMBER: P917963

CATALOG NUMBER: DFN2DIP-TR2F0-050D020US930-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	153.6	156.2	155.8	154.5	153.6
115°	174.1	176.6	175.9	175.4	174.1
117.5°	194.5	198.0	195.8	194.5	193.2
120°	215.0	218.4	215.0	215.0	213.6
122.5°	233.7	238.0	235.9	234.6	233.7
125°	253.2	257.1	255.9	254.5	254.0
127.5°	272.4	277.2	275.5	273.6	272.4
130°	290.2	295.9	295.1	294.2	292.4
132.5°	310.3	314.7	314.9	312.8	311.5
135°	327.6	332.4	333.3	332.9	331.6
137.5°	346.8	350.7	351.6	351.2	349.4
140°	363.8	367.7	369.9	369.9	368.2
142.5°	381.2	385.1	386.4	386.8	385.1
145°	397.7	400.8	403.3	403.7	402.0
147.5°	412.5	416.4	418.2	419.0	417.3
150°	427.7	430.3	432.0	433.4	432.0
152.5°	441.2	443.8	446.0	447.8	446.0
155°	454.8	456.0	457.4	459.6	458.2
157.5°	466.4	467.3	468.1	471.2	469.0
160°	476.9	477.8	478.3	480.9	479.0
162.5°	486.5	486.5	486.9	489.9	487.7
165°	494.7	494.2	494.2	497.3	495.2
167.5°	502.1	500.8	500.8	503.9	501.7
170°	507.8	506.5	506.1	509.2	506.5
172.5°	511.7	510.4	510.0	513.1	510.4
175°	514.8	513.6	512.6	515.7	513.1
177.5°	516.5	515.3	514.3	516.9	514.3
180°	515.7	515.7	515.7	515.7	515.7

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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	13.36	14.39	14.12	15.17	16.12	9.34	10.37	10.11	11.15	12.10
	3H	15.03	15.95	15.81	16.74	17.72	10.53	11.45	11.31	12.24	13.22
	4H	15.63	16.50	16.43	17.30	18.29	10.98	11.85	11.77	12.65	13.64
	6H	16.04	16.84	16.85	17.65	18.65	11.29	12.10	12.10	12.91	13.91
	8H	16.16	16.93	16.98	17.75	18.76	11.38	12.15	12.20	12.97	13.98
	12H	16.22	16.95	17.05	17.77	18.80	11.43	12.15	12.25	12.97	14.00
4H	2H	13.40	14.27	14.20	15.07	16.06	9.95	10.82	10.75	11.62	12.61
	3H	15.22	15.94	16.03	16.78	17.78	11.30	12.02	12.11	12.85	13.86
	4H	15.90	16.56	16.73	17.39	18.42	11.84	12.50	12.66	13.33	14.36
	6H	16.40	16.97	17.25	17.83	18.86	12.25	12.82	13.09	13.68	14.71
	8H	16.57	17.10	17.41	17.95	19.00	12.38	12.90	13.22	13.76	14.81
	12H	16.66	17.14	17.53	18.01	19.06	12.44	12.92	13.30	13.79	14.84
8H	4H	15.88	16.41	16.72	17.26	18.31	12.12	12.65	12.97	13.50	14.55
	6H	16.43	16.86	17.30	17.76	18.81	12.62	13.06	13.50	13.96	15.01
	8H	16.63	17.02	17.51	17.91	18.97	12.80	13.19	13.69	14.08	15.15
	12H	16.76	17.10	17.65	17.98	19.10	12.92	13.26	13.80	14.14	15.26
12H	4H	15.84	16.31	16.70	17.19	18.24	12.13	12.61	13.00	13.48	14.53
	6H	16.40	16.79	17.28	17.68	18.75	12.67	13.06	13.55	13.95	15.01
	8H	16.61	16.96	17.50	17.84	18.96	12.87	13.21	13.76	14.09	15.22