

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: P917932

Luminaire Tested: DFN2DIP-TR2F0-030D050US930-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P917932
REPORT IS A COMBINATION OF REPORTS P900253 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-030D050US930-FLLFLL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

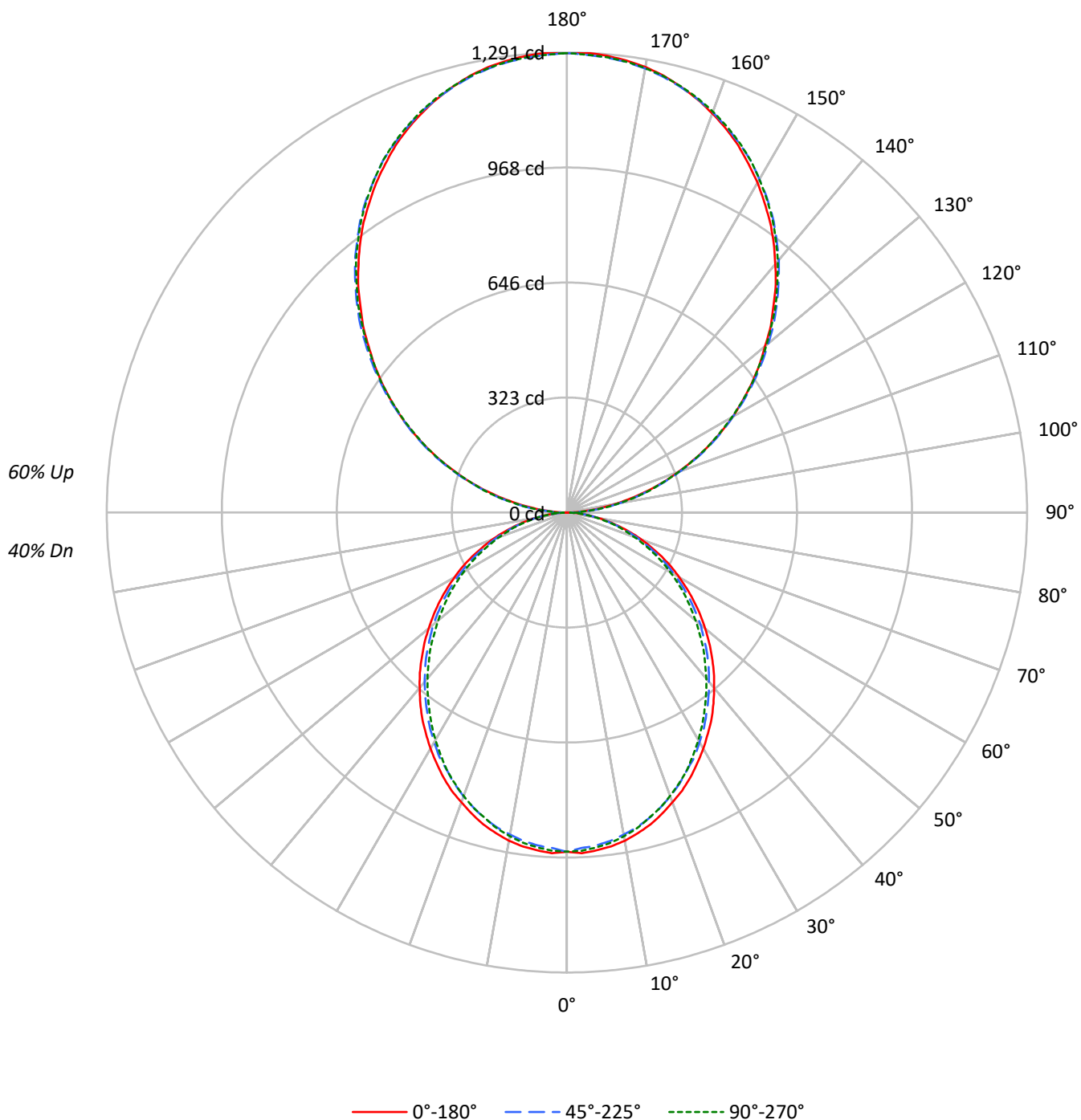
Lumens per Lamp: N/A
Luminaire Lumens: 6029.1 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 63.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P917932

CATALOG NUMBER: DFN2DIP-TR2F0-030D050US930-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P917932

CATALOG NUMBER: DFN2DIP-TR2F0-030D050US930-FLLFL

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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47
1	96	91	87	84	87	83	80	77	68	66	64	54	53	51	42	41	40
2	87	80	74	69	79	73	68	63	60	56	53	48	45	43	37	35	33
3	79	70	63	57	72	64	58	53	53	48	44	42	39	36	32	30	28
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	29	27	25
5	67	55	47	41	60	51	44	38	42	37	33	34	30	27	26	23	21
6	61	49	41	36	56	45	38	33	38	32	28	30	27	24	24	21	19
7	57	45	37	31	51	41	34	29	34	29	25	28	24	21	22	19	17
8	52	40	33	28	48	37	30	26	31	26	22	25	21	18	20	17	15
9	49	37	29	24	44	34	27	23	28	23	20	23	19	17	18	16	14
10	46	34	27	22	41	31	25	20	26	21	18	21	18	15	17	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2123	2123	2123
5°	2123	2088	2103
10°	2103	2056	2071
15°	2069	2017	2023
20°	2024	1965	1974
25°	1979	1904	1918
30°	1923	1847	1847
35°	1871	1781	1773
40°	1807	1714	1702
45°	1742	1646	1629
50°	1672	1575	1545
55°	1598	1492	1467
60°	1514	1395	1378
65°	1421	1294	1272
70°	1304	1171	1158
75°	1144	1023	1047
80°	949	834	847
85°	647	526	525

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1742 cd/sqm

TEST NUMBER: P917932

CATALOG NUMBER: DFN2DIP-TR2F0-030D050US930-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.6	1.5
10°-20°	252.0	4.2
20°-30°	370.4	6.1
30°-40°	430.2	7.1
40°-50°	429.7	7.1
50°-60°	374.6	6.2
60°-70°	277.0	4.6
70°-80°	156.7	2.6
80°-90°	45.0	0.7
90°-100°	79.8	1.3
100°-110°	253.5	4.2
110°-120°	433.8	7.2
120°-130°	570.5	9.5
130°-140°	640.4	10.6
140°-150°	627.9	10.4
150°-160°	526.8	8.7
160°-170°	349.3	5.8
170°-180°	122.1	2.0
0°-30°	712.0	11.8
0°-40°	1142.2	18.9
0°-60°	1946.5	32.3
0°-90°	2425.1	40.2
90°-120°	767.0	12.7
90°-150°	2605.8	43.2
90°-180°	3604.0	59.8
0°-180°	6029.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	952	952	952	952	952	
5°	952	948	938	945	944	90
15°	906	901	889	892	888	255
25°	820	813	797	799	797	377
35°	707	698	684	678	674	442
45°	576	569	556	545	542	444
55°	436	430	419	408	404	390
65°	294	288	279	271	266	290
75°	154	152	147	142	144	164
85°	38	37	36	33	32	42
90°	1	14	38	36	37	6
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	

TEST NUMBER: P917932

CATALOG NUMBER: DFN2DIP-TR2F0-030D050US930-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	951.7	951.7	951.7	951.7	951.7
2.5°	957.2	952.7	942.6	951.7	950.0
5°	951.7	948.1	938.0	945.3	943.5
7.5°	945.3	939.9	929.8	937.2	935.3
10°	935.3	928.9	917.9	925.2	922.5
12.5°	921.5	916.1	905.1	909.6	907.8
15°	906.0	900.6	888.6	892.3	887.7
17.5°	886.7	881.3	869.4	873.9	869.4
20°	865.7	860.2	847.4	850.1	846.5
22.5°	844.7	836.5	824.5	824.5	822.6
25°	819.9	812.7	797.1	798.9	797.1
27.5°	792.5	786.0	774.2	771.5	767.0
30°	765.1	757.7	744.0	741.3	737.6
32.5°	735.8	730.3	715.7	710.1	706.5
35°	707.4	698.3	683.6	678.1	673.5
37.5°	675.4	667.2	652.5	646.0	641.5
40°	642.5	635.1	620.4	612.3	608.6
42.5°	610.4	603.1	588.5	579.3	573.8
45°	575.7	569.2	555.5	545.4	541.8
47.5°	541.8	535.4	520.7	510.6	505.2
50°	506.1	501.5	488.7	475.9	471.3
52.5°	471.3	464.9	453.1	443.0	436.5
55°	435.7	430.2	419.1	408.2	403.7
57.5°	399.9	395.3	383.4	372.4	368.8
60°	364.2	360.6	347.8	337.7	335.0
62.5°	329.5	323.0	313.9	304.8	301.1
65°	293.8	288.3	279.2	270.9	266.4
67.5°	257.2	252.6	244.3	238.0	234.3
70°	223.3	219.6	211.4	205.0	201.4
72.5°	188.6	184.8	180.3	173.9	171.2
75°	153.7	152.0	147.3	141.9	143.7
77.5°	122.6	119.0	117.1	114.4	111.7
80°	91.6	90.6	88.7	86.0	84.2
82.5°	62.2	62.2	61.4	57.6	57.6
85°	37.5	36.6	35.7	32.9	32.0
87.5°	16.5	14.7	12.8	10.1	9.1
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

TEST NUMBER: P917932

CATALOG NUMBER: DFN2DIP-TR2F0-030D050US930-FLLFLL

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	8.78	9.56	9.82	10.60	12.01	8.36	9.14	9.39	10.18	11.58
	3H	10.41	11.11	11.46	12.16	13.58	9.95	10.65	11.00	11.70	13.12
	4H	10.98	11.64	12.04	12.69	14.13	10.52	11.18	11.58	12.24	13.67
	6H	11.36	11.97	12.42	13.02	14.47	10.90	11.51	11.96	12.56	14.01
	8H	11.45	12.03	12.52	13.10	14.54	10.99	11.57	12.06	12.64	14.08
	12H	11.49	12.04	12.56	13.11	14.57	11.02	11.57	12.10	12.64	14.10
4H	2H	9.22	9.88	10.29	10.94	12.37	8.88	9.55	9.95	10.60	12.03
	3H	11.05	11.61	12.13	12.69	14.13	10.67	11.22	11.74	12.30	13.75
	4H	11.74	12.25	12.82	13.32	14.79	11.35	11.86	12.43	12.93	14.40
	6H	12.23	12.67	13.32	13.76	15.22	11.84	12.27	12.92	13.37	14.83
	8H	12.37	12.78	13.46	13.86	15.34	11.97	12.38	13.06	13.47	14.94
	12H	12.43	12.80	13.53	13.90	15.38	12.02	12.39	13.13	13.49	14.97
8H	4H	11.92	12.33	13.01	13.42	14.89	11.57	11.98	12.66	13.07	14.54
	6H	12.52	12.86	13.63	13.99	15.46	12.17	12.51	13.28	13.64	15.11
	8H	12.73	13.02	13.85	14.14	15.63	12.37	12.67	13.49	13.78	15.27
	12H	12.84	13.10	13.96	14.21	15.74	12.47	12.73	13.59	13.84	15.37
12H	4H	11.90	12.27	13.01	13.37	14.85	11.56	11.93	12.67	13.03	14.51
	6H	12.55	12.84	13.67	13.96	15.45	12.21	12.50	13.32	13.61	15.11
	8H	12.77	13.03	13.89	14.14	15.67	12.42	12.68	13.54	13.79	15.32