

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: P926087

Luminaire Tested: DFN2DIP-TR2F0-020D020US950-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P926087
REPORT IS A COMBINATION OF REPORTS P901742 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-020D020US950-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

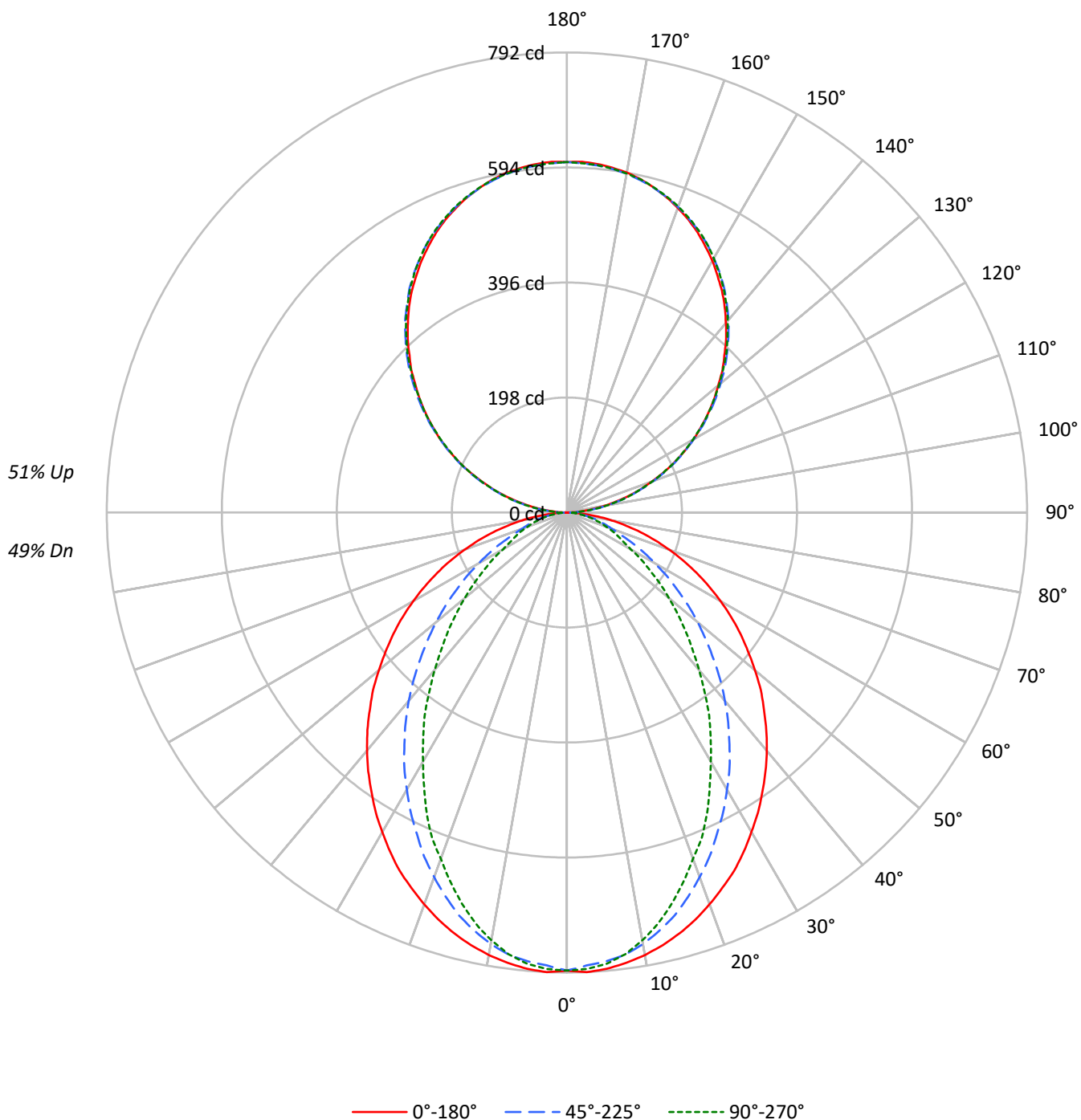
Lumens per Lamp: N/A
Luminaire Lumens: 3310.4 lumens
Efficiency: N/A
Efficacy: 108.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 30.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P926087

CATALOG NUMBER: DFN2DIP-TR2F0-020D020US950-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P926087

CATALOG NUMBER: DFN2DIP-TR2F0-020D020US950-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	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27
6	64	52	44	39	59	49	42	37	42	36	32	35	31	28	30	26	24
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1759	1759	1759
5°	1759	1727	1739
10°	1739	1689	1679
15°	1712	1630	1589
20°	1678	1549	1479
25°	1643	1459	1374
30°	1597	1368	1240
35°	1551	1270	1123
40°	1505	1169	990
45°	1451	1058	869
50°	1396	945	751
55°	1337	826	638
60°	1270	702	523
65°	1191	576	467
70°	1096	458	419
75°	977	396	375
80°	806	322	316
85°	528	199	222

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1451 cd/sqm

TEST NUMBER: P926087

CATALOG NUMBER: DFN2DIP-TR2F0-020D020US950-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.9	2.2
10°-20°	202.9	6.1
20°-30°	284.8	8.6
30°-40°	310.5	9.4
40°-50°	285.4	8.6
50°-60°	224.1	6.8
60°-70°	145.9	4.4
70°-80°	75.1	2.3
80°-90°	20.9	0.6
90°-100°	37.3	1.1
100°-110°	118.7	3.6
110°-120°	203.0	6.1
120°-130°	267.0	8.1
130°-140°	299.7	9.1
140°-150°	293.9	8.9
150°-160°	246.5	7.4
160°-170°	163.5	4.9
170°-180°	57.1	1.7
0°-30°	561.6	17.0
0°-40°	872.1	26.3
0°-60°	1381.7	41.7
0°-90°	1623.5	49.0
90°-120°	359.0	10.8
90°-150°	1219.7	36.8
90°-180°	1687.0	51.0
0°-180°	3310.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	789	789	789	789	789	
5°	789	785	776	782	780	75
15°	750	742	718	704	697	211
25°	681	658	611	582	571	313
35°	587	550	488	442	427	367
45°	480	432	357	306	289	370
55°	365	309	232	189	176	326
65°	246	188	124	100	98	244
75°	131	81	57	52	51	139
85°	31	16	14	14	14	35
90°	1	7	18	17	17	3
95°	26	32	32	32	32	30
105°	110	111	112	113	113	116
115°	204	207	206	205	204	202
125°	296	301	300	298	297	265
135°	383	389	390	390	388	296
145°	465	469	472	472	470	291
155°	532	534	535	538	536	245
165°	579	578	578	582	580	163
175°	602	601	600	603	600	57
180°	603	603	603	603	603	

TEST NUMBER: P926087

CATALOG NUMBER: DFN2DIP-TR2F0-020D020US950-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	788.6	788.6	788.6	788.6	788.6
2.5°	792.1	788.6	780.7	787.9	786.5
5°	788.6	785.0	775.7	782.2	780.0
7.5°	782.2	777.9	767.9	770.7	767.1
10°	773.6	768.5	754.3	752.1	747.9
12.5°	762.9	756.4	737.2	733.0	725.0
15°	750.0	742.1	717.9	704.3	697.3
17.5°	735.1	723.6	693.7	677.9	666.6
20°	717.9	703.6	668.0	650.2	634.4
22.5°	699.4	683.0	641.6	617.3	606.6
25°	680.9	658.0	610.8	581.7	570.9
27.5°	658.7	634.4	582.3	548.7	532.3
30°	635.2	608.0	550.9	514.6	495.2
32.5°	612.3	579.5	521.0	478.1	460.3
35°	586.6	550.3	487.5	442.5	426.7
37.5°	561.6	522.3	456.0	406.8	388.9
40°	535.2	492.5	423.2	372.5	353.9
42.5°	508.1	462.5	390.4	337.5	319.8
45°	479.6	431.7	356.9	306.1	289.0
47.5°	452.5	401.8	324.7	274.0	258.3
50°	422.5	371.9	293.4	244.0	229.2
52.5°	393.1	339.6	263.3	216.3	202.7
55°	364.6	309.0	231.9	189.2	175.5
57.5°	335.4	278.3	204.2	164.2	152.7
60°	305.5	248.3	174.9	138.5	127.1
62.5°	276.2	219.1	149.9	115.6	109.9
65°	246.2	188.4	124.2	100.0	97.8
67.5°	217.7	159.8	100.0	87.8	85.7
70°	187.7	132.0	82.7	75.7	72.8
72.5°	159.1	106.3	69.2	63.5	62.1
75°	131.3	81.3	57.0	52.1	51.4
77.5°	103.5	57.8	44.9	42.1	40.6
80°	77.8	41.4	34.2	31.4	31.4
82.5°	54.2	27.9	23.6	22.1	22.1
85°	30.6	15.6	13.5	13.5	13.5
87.5°	11.4	5.7	5.7	5.0	5.0
90°	0.6	6.6	17.8	16.7	17.3
92.5°	11.3	15.3	15.8	16.4	16.4
95°	26.5	31.7	32.5	32.5	31.7
97.5°	44.2	48.9	50.9	50.9	50.9
100°	64.6	68.8	70.2	70.2	69.6
102.5°	86.1	89.1	91.1	91.7	91.1
105°	109.5	111.0	112.1	113.0	113.0
107.5°	132.8	135.0	135.0	135.4	132.8
110°	155.4	158.3	158.3	158.3	156.8

TEST NUMBER: P926087

CATALOG NUMBER: DFN2DIP-TR2F0-020D020US950-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	179.7	182.8	182.3	180.8	179.7
115°	203.8	206.6	205.8	205.2	203.8
117.5°	227.6	231.6	229.1	227.6	226.1
120°	251.6	255.6	251.6	251.6	249.9
122.5°	273.4	278.5	276.0	274.6	273.4
125°	296.3	300.9	299.5	297.8	297.3
127.5°	318.7	324.4	322.4	320.2	318.7
130°	339.6	346.2	345.3	344.2	342.2
132.5°	363.1	368.2	368.5	366.0	364.5
135°	383.3	388.9	390.0	389.5	388.0
137.5°	405.8	410.4	411.4	411.0	408.8
140°	425.7	430.3	432.8	432.8	430.8
142.5°	446.1	450.6	452.1	452.6	450.6
145°	465.4	469.0	471.9	472.4	470.4
147.5°	482.6	487.2	489.4	490.3	488.3
150°	500.5	503.5	505.5	507.1	505.5
152.5°	516.3	519.4	521.9	523.9	521.9
155°	532.1	533.6	535.2	537.8	536.1
157.5°	545.8	546.8	547.8	551.4	548.8
160°	558.0	559.0	559.6	562.7	560.5
162.5°	569.3	569.3	569.7	573.3	570.7
165°	578.9	578.3	578.3	581.9	579.5
167.5°	587.6	585.9	585.9	589.6	587.1
170°	594.2	592.7	592.1	595.8	592.7
172.5°	598.7	597.2	596.7	600.4	597.2
175°	602.4	600.9	599.8	603.4	600.4
177.5°	604.4	602.9	601.8	604.8	601.8
180°	603.4	603.4	603.4	603.4	603.4

TEST NUMBER: P926087

CATALOG NUMBER: DFN2DIP-TR2F0-020D020US950-RLONL

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	8.89	9.71	9.86	10.69	11.98	4.87	5.69	5.84	6.68	7.96
	3H	10.54	11.28	11.52	12.27	13.58	6.05	6.78	7.03	7.77	9.08
	4H	11.13	11.83	12.13	12.82	14.14	6.48	7.18	7.48	8.17	9.49
	6H	11.54	12.18	12.54	13.17	14.50	6.79	7.43	7.80	8.43	9.76
	8H	11.65	12.26	12.66	13.28	14.60	6.87	7.48	7.89	8.50	9.82
	12H	11.70	12.28	12.72	13.29	14.64	6.91	7.49	7.93	8.50	9.85
4H	2H	8.90	9.60	9.90	10.59	11.91	5.45	6.15	6.46	7.14	8.46
	3H	10.70	11.28	11.71	12.30	13.64	6.78	7.36	7.80	8.39	9.72
	4H	11.38	11.90	12.40	12.92	14.28	7.32	7.85	8.34	8.86	10.22
	6H	11.87	12.32	12.90	13.36	14.71	7.72	8.17	8.75	9.21	10.56
	8H	12.03	12.45	13.06	13.49	14.85	7.84	8.26	8.87	9.29	10.66
	12H	12.11	12.49	13.16	13.54	14.91	7.89	8.28	8.94	9.32	10.69
8H	4H	11.34	11.76	12.37	12.79	14.16	7.58	8.01	8.61	9.04	10.40
	6H	11.88	12.23	12.93	13.30	14.67	8.08	8.43	9.13	9.50	10.87
	8H	12.08	12.39	13.14	13.45	14.83	8.26	8.56	9.32	9.62	11.01
	12H	12.20	12.47	13.27	13.53	14.95	8.36	8.63	9.43	9.69	11.11
12H	4H	11.29	11.67	12.34	12.72	14.09	7.58	7.97	8.63	9.01	10.38
	6H	11.85	12.16	12.92	13.22	14.60	8.12	8.43	9.18	9.49	10.87
	8H	12.06	12.33	13.12	13.38	14.81	8.32	8.59	9.38	9.64	11.07