

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: P926090

Luminaire Tested: DFN2DIP-TR2F0-020D030US950-RLFL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P926090
REPORT IS A COMBINATION OF REPORTS P900232 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-020D030US950-RLLFLL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

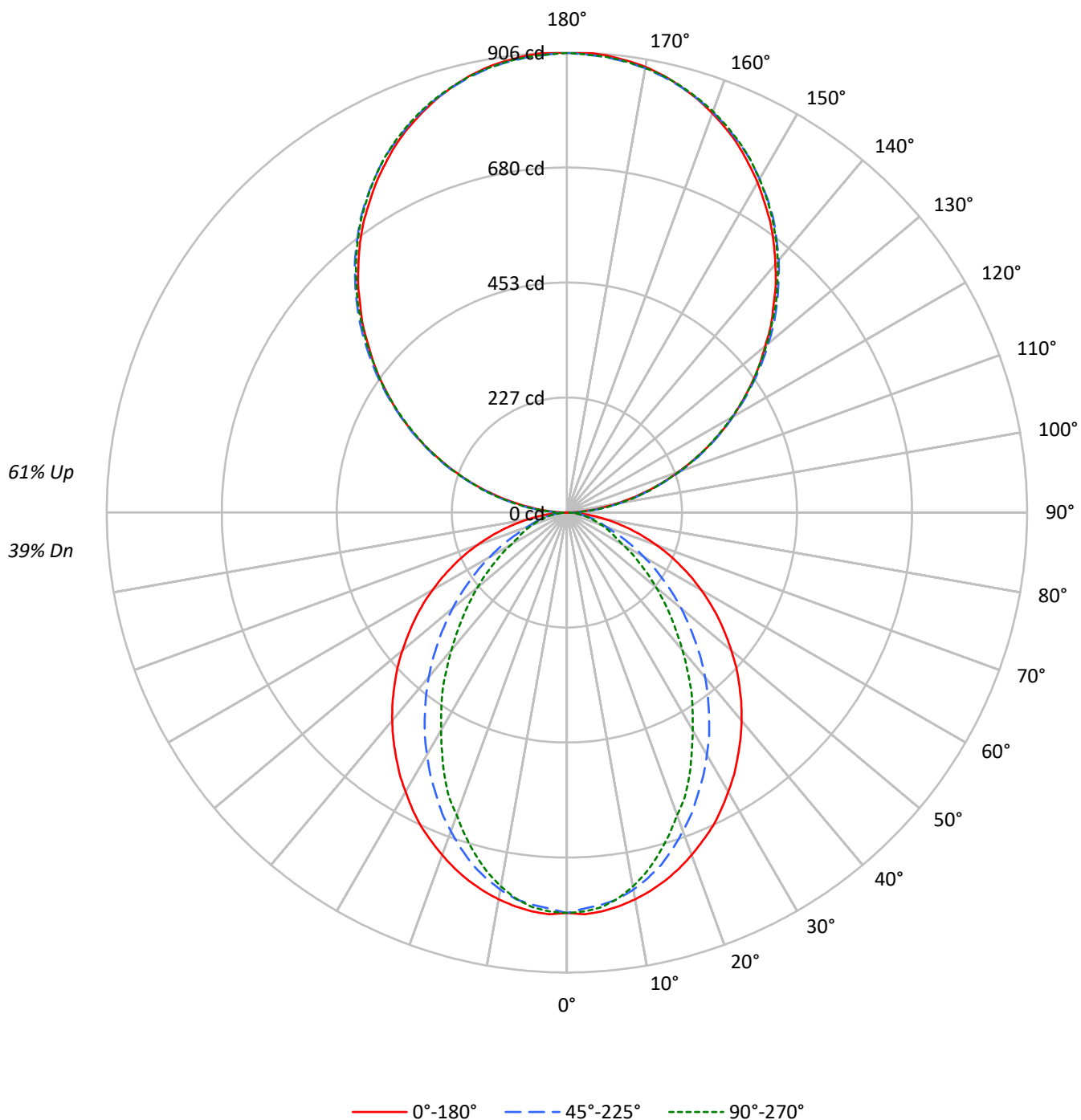
Lumens per Lamp: N/A
Luminaire Lumens: 4154.6 lumens
Efficiency: N/A
Efficacy: 112.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 37
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

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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	30	10
RCR																	
0	105	105	105	105	95	95	95	95	77	77	77	61	61	61	46	46	46
1	96	92	88	85	87	83	80	78	68	66	64	54	53	51	41	40	40
2	87	80	75	70	79	73	68	64	60	57	54	48	46	44	37	35	34
3	80	71	64	58	73	65	59	54	53	49	46	43	40	37	33	31	29
4	73	63	55	50	66	58	51	46	48	43	39	38	35	32	30	27	26
5	67	56	48	43	61	52	45	40	43	38	34	35	31	28	27	24	22
6	62	51	43	37	56	46	40	35	39	33	30	31	28	25	25	22	20
7	57	46	38	33	52	42	35	30	35	30	26	29	25	22	22	20	18
8	53	41	34	29	49	38	32	27	32	27	23	26	22	20	21	18	16
9	50	38	31	26	45	35	29	24	29	24	21	24	20	18	19	17	15
10	46	35	28	23	42	32	26	22	27	22	19	22	19	16	18	15	13

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

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.9	1.8
10°-20°	202.9	4.9
20°-30°	284.8	6.9
30°-40°	310.5	7.5
40°-50°	285.4	6.9
50°-60°	224.1	5.4
60°-70°	145.9	3.5
70°-80°	75.1	1.8
80°-90°	21.7	0.5
90°-100°	56.0	1.3
100°-110°	178.0	4.3
110°-120°	304.6	7.3
120°-130°	400.5	9.6
130°-140°	449.6	10.8
140°-150°	440.9	10.6
150°-160°	369.8	8.9
160°-170°	245.3	5.9
170°-180°	85.7	2.1
0°-30°	561.6	13.5
0°-40°	872.1	21.0
0°-60°	1381.7	33.3
0°-90°	1624.4	39.1
90°-120°	538.5	13.0
90°-150°	1829.5	44.0
90°-180°	2530.0	60.9
0°-180°	4154.6	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	10	27	25	26	4
95°	40	48	49	49	48	44
105°	164	166	168	169	169	173
115°	306	310	309	308	306	302
125°	445	451	449	447	446	397
135°	575	583	585	584	582	444
145°	698	704	708	709	706	436
155°	798	800	803	807	804	367
165°	868	868	868	873	869	245
175°	904	901	900	905	900	86
180°	905	905	905	905	905	

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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°	0.9	9.8	26.7	25.1	25.9
92.5°	16.9	22.9	23.8	24.5	24.5
95°	39.9	47.5	48.8	48.8	47.5
97.5°	66.3	73.4	76.4	76.4	76.4
100°	96.8	103.1	105.3	105.3	104.6
102.5°	129.1	133.8	136.7	137.6	136.7
105°	164.3	166.5	168.1	169.4	169.4
107.5°	199.2	202.4	202.4	203.0	199.2
110°	233.1	237.5	237.5	237.5	235.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	269.6	274.3	273.4	271.2	269.6
115°	305.7	310.0	308.6	307.9	305.7
117.5°	341.3	347.4	343.5	341.3	339.1
120°	377.4	383.4	377.4	377.4	374.9
122.5°	410.1	417.8	413.9	411.7	410.1
125°	444.6	451.3	449.1	446.7	445.9
127.5°	478.0	486.5	483.6	480.2	478.0
130°	509.4	519.3	517.9	516.3	513.3
132.5°	544.6	552.3	552.8	549.0	546.8
135°	575.0	583.4	585.1	584.2	582.0
137.5°	608.7	615.6	617.0	616.5	613.1
140°	638.5	645.4	649.2	649.2	646.1
142.5°	669.1	675.9	678.1	679.0	675.9
145°	698.0	703.5	707.9	708.6	705.7
147.5°	724.0	730.8	734.0	735.4	732.4
150°	750.7	755.4	758.3	760.8	758.3
152.5°	774.5	779.0	782.9	785.9	782.9
155°	798.2	800.3	802.8	806.6	804.2
157.5°	818.6	820.2	821.7	827.1	823.3
160°	836.9	838.6	839.4	844.0	840.8
162.5°	853.8	853.8	854.7	859.8	856.0
165°	868.3	867.5	867.5	872.9	869.1
167.5°	881.4	878.9	878.9	884.4	880.5
170°	891.2	889.0	888.3	893.7	889.0
172.5°	898.0	895.9	895.0	900.5	895.9
175°	903.5	901.3	899.7	905.2	900.5
177.5°	906.5	904.3	902.7	907.3	902.7
180°	905.2	905.2	905.2	905.2	905.2

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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	7.87	8.62	8.92	9.67	11.09	3.85	4.60	4.90	5.65	7.07
	3H	9.51	10.18	10.58	11.24	12.68	5.02	5.69	6.08	6.75	8.19
	4H	10.10	10.74	11.18	11.80	13.25	5.45	6.09	6.53	7.15	8.60
	6H	10.50	11.08	11.58	12.15	13.61	5.76	6.34	6.84	7.41	8.86
	8H	10.62	11.17	11.70	12.25	13.70	5.84	6.39	6.92	7.47	8.93
	12H	10.66	11.19	11.75	12.27	13.74	5.87	6.40	6.96	7.47	8.95
4H	2H	7.87	8.51	8.95	9.57	11.01	4.42	5.06	5.50	6.12	7.57
	3H	9.67	10.19	10.75	11.28	12.74	5.75	6.27	6.83	7.36	8.82
	4H	10.34	10.82	11.43	11.90	13.38	6.28	6.76	7.37	7.84	9.32
	6H	10.82	11.24	11.92	12.34	13.82	6.68	7.09	7.77	8.19	9.67
	8H	10.99	11.37	12.08	12.47	13.96	6.79	7.18	7.89	8.28	9.77
	12H	11.06	11.41	12.18	12.52	14.02	6.84	7.19	7.96	8.30	9.80
8H	4H	10.29	10.68	11.39	11.78	13.27	6.54	6.92	7.64	8.02	9.51
	6H	10.83	11.15	11.95	12.29	13.78	7.03	7.35	8.15	8.49	9.97
	8H	11.03	11.31	12.16	12.43	13.94	7.21	7.49	8.34	8.61	10.11
	12H	11.15	11.40	12.28	12.51	14.06	7.31	7.56	8.44	8.67	10.22
12H	4H	10.24	10.59	11.36	11.70	13.19	6.53	6.88	7.65	7.99	9.49
	6H	10.81	11.09	11.93	12.20	13.71	7.07	7.35	8.20	8.47	9.98
	8H	11.01	11.25	12.14	12.37	13.91	7.27	7.51	8.40	8.63	10.17

END OF REPORT